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University of Michigan - BUHR



/ for World's Greatest Track Race, May 30

Automobile Topics

10 Cents a Copy; \$2.00 a Year

Vol. XXII.

NEW YORK, MAY 27, 1911

No. 8

11th Year. [No. 554]

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IS YOUR FINGER ON THE PULSE OF THE AUTOMOBILE SITUATION

**Perhaps this will point out a
phase you have overlooked**

What you are going to do next year is a thought that should now occupy much of your attention.

The advancement of an industry is shown by the wrecks of the companies who participate in its progress. This is true with all industries. Failures occur during the most prosperous times, just as they do during periods of panic.

In 1909, 446 clothing manufacturers, for instance, failed. This in prosperous times. The liabilities totaled \$4,826,047. Yet the big manufacturers grew. They were not affected. They felt no money stringency. They did not even feel the effect of severe competition. Their progress was made at the expense of the less competent—less successful makers.

That holds true with the automobile industry. Some manufacturers will continue to grow bigger. Theirs will be big lines. Companies manned by men of inexperience and insufficient capital will be unable to survive. Even when the demand was great; there were many failures. But as competition becomes harder, as those successful makers develop their business and are able to eliminate wasted effort, it will be harder for the less competent. It is the same with men as with the industries.

We are not seeking new agency arrangements for HUDSON cars. Our entire product for 1911 is contracted for, but just as we constantly scan the industry for the most efficient men, whether they are testers, machinists, superintendents or managers, we also are just as watchful for dealers.

This advertisement is merely to suggest to you that you note what the HUDSON does this year. Perhaps you, too, would like to be identified with its organization. At any rate, a close observance of its progress indicates pretty thoroughly the advancement the industry is making.

HUDSON

MOTOR CAR CO.

7005 Jefferson Avenue, Detroit, Michigan

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Automobile Topics

Illustrated

Vol. XXII.

NEW YORK, MAY 27, 1911.

No. 8.

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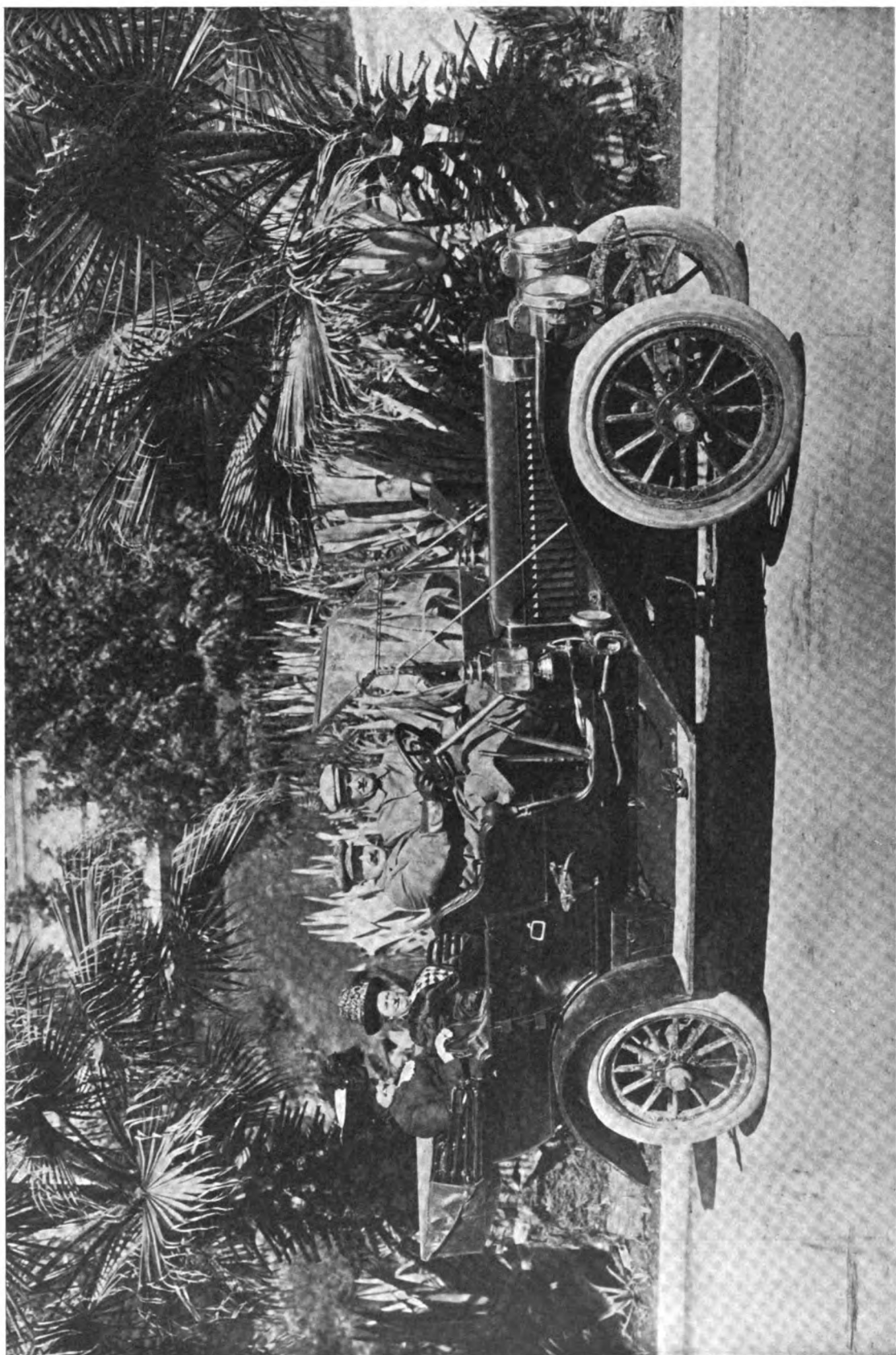
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FOREIGN SUBSCRIPTIONS, \$4.00 (GOLD) POSTPAID



IN WEST LAKE PARK, LOS ANGELES, CAL.—MR. AND MRS. GEORGE O'REILLY AND MR. AND MRS. A. E. BLACKBURN, OF SEATTLE, WASH., ON TOUR

Automobile Topics

Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Vol. XXII.

NEW YORK, MAY 27, 1911

No. 8

TOPICS

DEAD HORSE HILL is to come into the limelight after being in darkness for a number of years, and the Gliddenites are to climb it for prizes. Old timers will remember Dead Horse Hill and its Czar, the inexorable Quinn, who, Canute-like, bestrode its summit and bade motorists all and several mind their P's and Q's—especially their Q's. There was a rumor that Quinn acted in opposition to the wishes of most Leicesterites in harassing motorists as he did in the middle of the last decade, but if so he bossed his constituents in the time-honored way of all Celts. Leicester, be it known, is a few miles south of Worcester, Mass., and Quinn was selected to put a stop to alleged speeding through the town, which is at the top of the mile-long Dead Horse Hill. In the Glidden tour of 1905 he caught the tourists going and coming. On their way north he took the numbers of a goodly portion and waited for them to return. When they reached Worcester they were duly summoned, hauled to court and fined. Then, as appropriate revenge, a band was engaged, transported to Leicester, paraded through the town and lined up in front of the mill where Quinn

worked, playing the Dead March from Saul and other mournful derges. Quinn did not appear, and a year or two afterward he disappeared from sight. Dead Horse Hill itself is still a good stiff grade, one to cause the drivers of some cars to go into intermediate speed, but not one to cause any car to stall, as was a not too rare occurrence half a dozen years ago.

OF GREAT IMPORTANCE is the decision of the Massachusetts Supreme Court, to the effect that motorists in that State may drive at any speed that is reasonable and proper—in other words, that no arbitrary speed limit exists. Everything depends, the court holds, on the ability to convince a jury or a court that the speed was “reasonable and proper,” reference being had to the conditions of road, traffic, etc. This is the common sense view of the matter, and the time will come when it will be generally accepted. Arbitrary speed limits were wrong from the beginning, but law makers and opponents of the motor vehicle could never rid themselves of the idea that if they were done away with motorists would run amuck and defy the law. It availed naught to point out that an arbitrary limit is just as wrong on congested Fifth Avenue,

New York, as it is on lonely parkways or suburban roads that are almost devoid of traffic. The "reasonable and proper" rule, on the contrary, meets all difficulties and overcomes all objections. It is extremely gratifying to find one State coming around to it.

IF A CABLE DISPATCH from London is to be believed, England fears an invasion of American automobiles. "The number of American cars arriving in this country is steadily increasing," it is said. Well, stranger things than this have happened.

BARNEY OLDFIELD makes the criticism that the entrance fees will pretty nearly pay the prize money in the 500-mile race at Indianapolis, and adds that few drivers will make any money out of the contest. It is scarcely necessary to say that Barney is not one of the contestants.

NEW JERSEY threatens to withdraw its 8-day license privileges from New Yorkers, pointing out that it gets nothing in return. Quite right. New York grants reciprocal privileges—that is, any State recognizing New York licenses will have *its* licenses recognized in New York. But New Jersey fails to do this (although it does grant privileges for eight days on payment of a small fee and other requirements) and so it gets no privileges from New York. The result will probably be that war between the States will follow, and the motorists will pay the piper by having to take out regular licenses in each State. A pretty state of affairs.

IT IS PROBABLE that the highway department of such States as New York and New Jersey are doing all they can to keep their roads in repair, but that tens of thousands of dollars are being wasted is apparent to any one who gives the matter any attention. To permit a road to go to rack and ruin for want of the proverbial stitch in time is both exasperating to its users, but it is a sheer waste of money that falls little short of appalling. What is the use of constructing expensive roads and then letting them go to rack and ruin? The too prevalent practice is to complete a road and then, to all intents and purposes, forget that it exists. The sagacious Col. du Pont, of Delaware, who has set aside \$2,000,000 for the

construction of a road running the length of the State, made it a part of his benefaction that each completed section of the road should be placed in charge of an inspector and kept in repair. If this were done everywhere we should have fewer complaints of the condition of our much-traveled highways.

"GAITERS FOR CHAUFFEURS" is the slogan raised in England, and "Away with gaiters" is the counter cry of the opponents of these sartorial adornments. The contention of the gaiter party is that these useful appendages are part of the livery a chauffeur should wear. The "antis" retort in this fashion: "Gaiters are remnants. When motors were in their infancy the drivers sat exposed to wind and rain entirely unprotected, with the steering columns between their knees and half a dozen levers and handles absolutely vital to be manipulated ever and always. Rugs were out of the question, for in addition to all these gadgets there was the constant necessity for them to be always getting in and out of the car, occasionally lying under it, and very often the pushing of it home." Who would be willing to wear gaiters after that scathing denunciation?

NEW JERSEY is threatened with an unwelcome visitation. A New York motorist, who has been residing over the Connecticut line, and there encountered speed-discouraging constables, and is in consequence threatened with a jail sentence if caught again, says he will remove to New Jersey, "where," and he puts it, "the roads are equally good." It is to be hoped that the authorities will prove equally good as those of Connecticut in apprehending speeders.

A MASSACHUSETTS court holds that driving an automobile is manual labor when the said driver is in the employ of the company owning the car, and that fellow employes who may be injured while in the vehicle have no just claim for damage. This seems to be common sense as well as sound law.

A NEW YORK chauffeur has been sentenced to jail for one year for joy-riding. It is believed to be the first conviction of the kind. A severe sentence, but a salutary one.

Year in Jail for "Joy Ride"

The first conviction under the clause in the Callan automobile law, in force in New York State, which provides for a chauffeur using his employer's car without the latter's consent being liable to the charge of larceny, was made last week in the Court of Special Sessions in New York City, with Justice Foster presiding. The defendant, one John Cush, was charged with using his employer's car without the latter's permission and the case resulted in a verdict of petty larceny against Cush, who was sentenced to one year in the penitentiary.

After quoting the section of the law which provides that, "Any chauffeur who without the consent of the owner shall take, use or operate an automobile or motor vehicle, and operate or drive or cause the same to be operated or driven for his own profit, use or purpose, steals the same and is guilty of larceny," Judge Foster in his charge to the jury said:

In other words, if the defendant, who admits that he was a chauffeur employed by Mr. Klee, the complaining witness, took the car, used it and operated it, or caused the same to be used and operated for his own use and purpose, he stole it and is guilty of larceny.

There is no proof here that he took it for profit. It is not necessary under the law to prove that. If he took it for his own use or for his own purpose, whatever his use or purpose was, if it was not the purpose of his master, and if he took it without the consent of the master and operated and drove it, he stole it under the law. And whether he did so and is guilty of larceny is the question submitted to you for your determination and decision.

If he took this car and in the course of his duty was bound to take it to the garage, but instead took his friends and drove them about the streets, then under the law, that being his own purpose and that being done without the consent of the owner, he stole that car and is guilty of larceny. And that is the first question for you to determine.

The kind and degree of larceny is dependent, so far as this case is concerned, upon the value of the property stolen. In view of the condition of the proof here I believe the ends of justice will be best subserved, if you find the defendant guilty, by finding him guilty of petty larceny. Whether he is so guilty is the precise and only question then that I submit to you."

New Jersey Withdraws 8-Day Licenses

New York motorists were greatly surprised this week when Secretary of State Lazansky

announced that he had received a communication from the head of the New Jersey Automobile Bureau to the effect that the latter State had decided to discontinue issuing eight-day licenses to New York automobilists until that State would grant a similar privilege to New Jersey motorists. Under the present New York law motorists from other States that grant the same privileges to New Yorkers are allowed the free use of the highways. The reciprocity clause being absent from the New Jersey law visitors to New York from that State are required to take out a license. Last September Attorney General O'Malley ruled that New York under the existing law could not issue eight day licenses to machines from States which issues licenses of this kind to New York automobiles, but that it must be no license or a full license for the year. Another effort is now being made to have New York State issue eight-day licenses.

Governor Dix Signs Road Bills

Bills providing for the appropriation of between \$4,000,000 and \$5,000,000 for the improvement of the highways in New York State were signed by Governor Dix on May 17.

The appropriations are to be provided by bonds issued under the \$50,000 highway act. One of the most important of the bills signed by the Governor is that providing for the completion of the International Highway from New York City to the Canadian border line at Rouses' Point. This route, which is designed to connect on the northern border with a Canadian highway leading to Montreal, has been completed as far as Albany, where the highway branches off in the direction of Buffalo. The measure considering this highway provides for the appropriation of \$1,600,000 for the construction of macadam roads.

The other measures signed by Governor Dix are those of Senator Ferris, appropriating \$500,000 for the completion of the State highway through the Central Adirondack region from Fulton Chain to McKeever; Senator Evans, appropriating \$1,200,000 for improving State highway route No. 4 in Orange and Sullivan counties, and Mr. Miller, appropriating \$625,000 for the completion of a stone road from Albany to Binghamton.

Ready for Start of 500-Mile Race

Everything is now in readiness for the 500-mile race to be run at the Indianapolis Motor Speedway on Decoration Day, when forty-six of the most prominent drivers in the United States will pilot the latest creations in speed automobiles in a race for the largest prize ever offered for a contest of its kind. The 500-mile race is the largest automobile speed event ever run on a specially constructed course, and the entry list is also the largest ever gotten together for a race in the United States. The drivers will battle for a share in the approximately \$40,000 in prizes, which will be divided among the first ten men to cross the line.

With the finish of the long grind will culminate the work of close to a year on the part of the speedway management, for it was just nine months ago that first announcement was made that the contest would be held. In an effort to bring together the best field possible the promoters sent representatives abroad to present to the foreign manufacturers the possibilities of the race. Six foreign cars have been named to start in the race, but they are all entered by private owners, who, in most cases, intend to drive their cars themselves.

During the last week or so many of the drivers have been at the scene of the race putting their cars through final tests and becoming acquainted with the vitrified brick course with its banked turns and smooth level stretches; and from reports remarkably fast time has been made in practice spins. There have been few accidents during these spins, but none of them resulted seriously to the drivers or damaged the cars to any extent.

The race is scheduled to start at ten o'clock on the morning of May 30, and it is expected that seven hours later it will have been won and lost.

Ever since the race was first announced it has created considerable comment in the world of motoring and as the starting time grew nearer the interest taken in it grew more intense. Every driver in the country, it seemed, wanted to participate in it and the manufacturers had little difficulty getting the best pilots to handle their product. The promoters have offered a prize of \$25,000 to be divided among the first ten men to cross the finish line and this with the additional awards that

were guaranteed by various accessory manufacturers was the magnet that attracted the drivers.

When the \$25,000 prize was first announced it was stipulated that the race would not be held unless thirty cars were nominated to start. The manner in which entries were turned into the hands of the promoters surprised them greatly. As the entry fees is \$500 for each car up to March 1 and \$750 a car for those entered after that date and before May 1, it can easily be seen that the entry fees of the forty-six cars that were named when entries finally closed on May 1 will practically complete the prizes to be offered by the promoters.

The main prize offered by the management is \$10,000 for the driver of the car to first complete the 500 miles and the remaining \$15,000 will be divided among the next nine drivers, according to the order of their finish, as follows: Second, \$5,000; third, \$3,000; fourth, \$2,000; fifth, \$1,500; sixth, \$1,000; seventh, \$800; eighth, \$700; ninth, \$600, and tenth, \$500. In addition to this manufacturers of carburetors, magnetos, etc., have offered bonuses to the extent of about \$15,000 to the drivers who finish in front with cars equipped with their product. Supplementing the cash prizes are ten bronze plaques which will be given to the entrants of the ten winning cars. It has long been the rule in automobile racing that the drivers shall receive the cash prizes and the makers the trophies.

Conditions of Race

The race is practically a free-for-all and is run under the A. A. A. sanction as a Class E, or special event, and the conditions are that each car shall weigh at least 2,300 pounds and have no more than 600 cu. in. piston displacement. This makes cars up to about 120 hp. eligible. The forty-six cars that have been nominated to race the 200 laps arounds the $2\frac{1}{2}$ miles course have a total of 20,150 cu. in. of piston displacement, giving an average of 438 cu. in. a car, according to its motor construction. Many of the cars entered have been specially constructed for the race and their piston displacements are barely below the 600 cu. in. limit. There are other cars that are stock, but these are in the minority. It has been said that several of the manufac-

ENTRIES FOR THE INDIANAPOLIS 500-MILE RACE

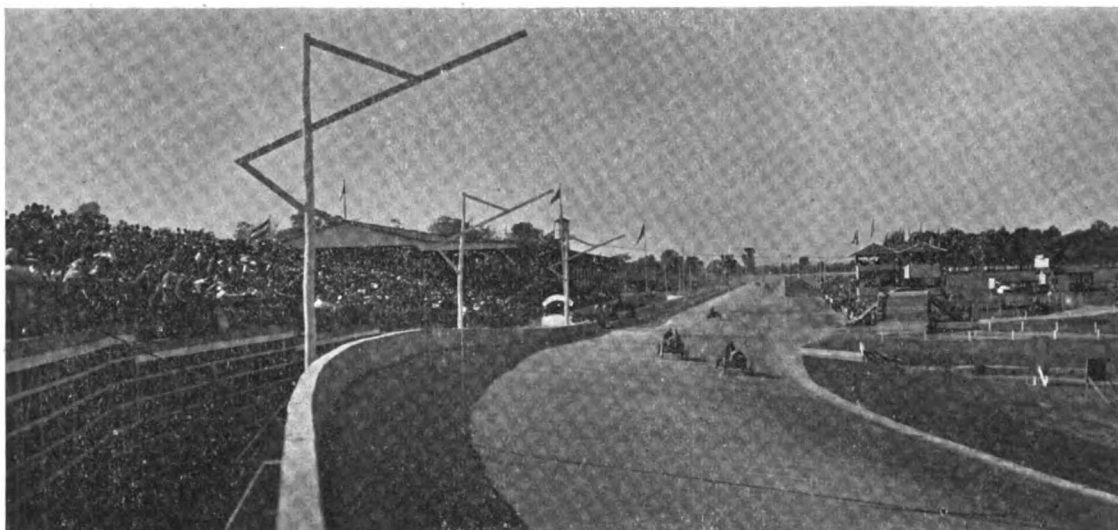
Car	Cyl.	Bore	Stroke	P. D.	Driver	Entrant
Case	4	4¼	5	284	Strang	J. I. Case Co.
Simplex	4	5¼	5¾	597	DePalma	Simplex Auto Co.
Inter-State	4	4¾	5½	390	H. Endicott	Inter-State Auto Co.
National	4	5	5 11-15	447	Aitken	National Motor Vehicle Co.
Pope-Hartford	4	4¾	5½	390	Disbrow	Pope-Hartford Co.
Pope-Hartford	4	4¾	5½	390	Fox	Frank P. Fox
Wescott	6	4½	5¼	421	Knight	Wescott Motor Car Co.
Case	4	4¼	5	284	Jaegersburger	J. I. Case Co.
Case	4	4¼	5	284	Jones	J. I. Case Co.
Stutz	4	4¾	5½	390	Anderson	Stutz Auto Parts Co.
Mercedes	4	5.1	7.1	583	Wishart	Spencer E. Wishart
Amplex	4	5 5-16	5	443	Turner	Simplex Motor Car Co.
F. A. L.	4	4½	5¼	298	Gelnaw	Fal Motor Car Co.
F. A. L.	4	4½	5¼	298	Pearce	Fal Motor Car Co.
Knox	6	5	4¾	559	Belcher	Fred W. Belcher
Buick	4	6	5¼	594	A. Chevrolet	Wadsworth Warren
Buick	4	6	5¼	594	C. Basle	Wadsworth Warren
Fiat	4	5.5	5.1	487	Hearne	Edw. A. Hearne
Alco	6	4¾	5½	580	Grant	American Loco. Co.
National	4	5	7½	588	Merz	National Motor Vehicle Co.
National	4	5	7½	588	Wilcox	National Motor Vehicle Co.
McFarlan	6	3½	4	248	Clemens	McFarlan Motor Car Co.
McFarlan	6	4	5	377	Adams	McFarlan Motor Car Co.
Jackson	4	4¾	4¾	355	Ellis	Jackson Auto Co.
Jackson	4	4¾	4¾	355	Cobe	Jackson Auto Co.
Jackson	4	5	5½	432	Tower	Jackson Auto Co.
Cutting	4	(Not given)			Delaney	Clarke Carter Auto Co.
Fiat	4	5	7½	589	Bruce-Brown	David L. Bruce-Brown
Lozier	4	5¾	6	544	Van Gorder	Dr. W. H. Chambers
Firestone-Columbus	4	5	5½	432	Frayer	Columbus Buggy Co.
Marmon	4	4½	7	445	Dawson	Nordyke & Morman Co.
Marmon	6	4½	5	477	Harroun	Nordyke & Morman Co.
Lozier	4	5¾	6	544	Mulford	Lozier Motor Co.
Lozier	4	5¾	6	544	Tetzlaff	Teddy Tetzlaff
Apperson	4	5½	5¾	546	Lytle	Herbert H. Lytle
Mercer	4	4¾	5	300	Hughes	Mercer Auto. Co.
Mercer	4	4¾	5	300	Bigelow	Mercer Auto. Co.
Simplex	4	5¼	5¾	597	Beardsley	Ralph Beardsley
Fiat	4	5.5	5.1	487	Bragg	Caleb S. Bragg
Velie	4	4½	5¼	334	Gibbons	Velie Motor Car Co.
Velie	4	4½	5 ¼	334	Hall	Velie Motor Car Co.
Cole "Special"	4	(Not given)			Endicott	Cole Motor Car Co.
Cole "Thirty"	4	4½	4½	294	Jenkins	Cole Motor Car Co.
Amplex	4	5 5-16	5	390	Not decided	Simplex Motor Car Co.
Benz	6	5.1	6.2	520	Burman	E. A. Moross.
Benz	6	4.5	5.9	444	Knipper	E. A. Moross.

turers have spent as much as \$25,000 each preparing for the race. One of the conditions is that the cars have to show a speed of 75 miles an hour to be eligible for the race.

When the large field was announced there was started a continuous discussion as to the safety with which a race of this scale could be run on a $2\frac{1}{2}$ mile course, and many declared that the contest could not be held without a serious accident occurring. The high speed that would be necessary for a driver to win the race would make it dangerous for

driver, he said, who causes the accidents. Coolness at the critical moment is absolutely necessary in a race such as the 500-mile contest. A blow out of one of the tires of a car traveling at an eighty mile an hour speed with several others going along at the same pace about 100 yards or so in the rear is a serious proposition and it requires a cool head and a steady hand on the part of the driver to come through such a predicament safely.

There has been various opinions expressed as to the speed a car will have to maintain to



THE BANKED FIRST TURN ON THE SPEEDWAY

the forty-six cars to be upon the track at the same time, it was contended. Many of the drivers themselves have declared that the race would not finish without a mishap of some kind or another, but like all men who flirt with death, they thought it would be the other fellow who would get into trouble.

One driver even went so far as to say that he doubted if there would be ten cars in the race at the finish and he supplemented this by saying that "there will be wrecks galore." Yet this same driver was anxiously awaiting word from the factory he represented telling whether he was to drive in the race or not. He wanted to drive. Another driver, one who is to pilot a car in the grind, said that the race was filled with danger, but that most of this lay with the drivers themselves and he mentioned a few of the nominations who he thought should not be permitted to guide a car on the course. It is the inexperienced

win the race. The majority contend that the winner will average over 70 miles an hour, while others declare that the large field will necessitate a slow speed for the first couple of hours and this will cut down the average considerably.

The Drivers

When it comes to picking a winner from among the drivers entered the "dopesters" are very much at a loss, but there is a set of drivers that will always be considered when it comes to making choices of the winners. There are many men nominated who have prominent victories in road or track races to their credit, while others have been conspicuous on speedways since that type of course came into vogue, but past performances always have to be considered.

Harry Grant, due to his two time victory in the Vanderbilt Cup race, is entitled to first consideration. Grant is to drive the same

Alco car that carried him home first in the 1909 and 1910 Long Island classic and he has announced his intention of following out the same system of driving he used on these two occasions. Grant drives at a consistent speed and is not the flashy, spectacular type of pilot, who earns the applause of the spec-



TEDDY TETZLAFF, ROAD RECORD HOLDER

tators during the early stages of a race and is never again heard of. It is Grant's style of driving that is going to bring forth a winner in the Decoration Day contest.

Several months ago those who follow the sport of automobile racing were greatly surprised when word came East that a California driver had twice broken the American road record in the Santa Monica races. This breaking of the records was the way Teddy Tetzlaff introduced himself to the general automobile public. Quite a few were of the opinion that Tetzlaff's Santa Monica performance was a fluke, but later he convinced the skeptics in the East that he is a driver to be considered, when he defeated Ralph De Palma in a 50-mile match race on the Los Angeles circular board track and established several more rec-

ords. On both these occasions Tetzlaff drove a Lozier, which he owns himself, and it is the same car that he is scheduled to drive in the 500-mile race.

Another road race winner is David Bruce-Brown, the millionaire New Yorker who truly drives for the pleasure there is in it. Bruce-Brown surprised race followers last November when he was the first home in the Grand Prize race at Savannah. In winning this race with a Benz, Bruce-Brown established an American road record for long distance races. He only won by a very small margin, 1.42 seconds to be exact, but he drove a magnificent race. In the race next Tuesday he will be at the wheel of another foreign car, but this time it will be a Fiat, the largest of the three cars of that make entered. Joe Matson will be the alternate driver on these cars.

"Wild Bob" Burman, the recently crowned "Speed King," who, it is said, will receive his crown just prior to the start of the race, is to drive a Benz car entered by his manager, E. A. Moross. Burman gave a good account of himself at the wheel of an American car in the Grand Prize race at Savannah last year, finishing third after a race in which misfortune in the shape of tire trouble followed him persistently. There are many who claim that Burman will not be among the finishers because of his tendency to "beat up" his car during the early stages of a race. Tires will figure prominently in the long race on the brick course and the excessive speeder will be the most regular caller at the tire pit. Burman won a 300-mile race at the opening meet on the Speedway.

Louis Disbrow, who is to pilot a Pope-Hartford, showed that he is capable of traveling fast for a long distance when he established several records in a 300-mile race at Jacksonville this spring. Disbrow is not a stranger to long-distance grinds on speedways, either. In 1909 he won the "Atlanta Trophy" in a 200-mile race at the Georgia track. Neil Whalen will alternate driving the Pope-Hartford with Disbrow. Ray Harroun, who last year was the "Speedway King," has enough victories to his credit on specially constructed courses to entitle him to consideration in the forthcoming race. In this race he will be at the wheel of a Marmon. Another Marmon driver who has won quite a few races, both on road and speedway, is Joe Dawson. Dawson drove a

sensational race in the last Vanderbilt Cup contest, only to be beaten out at the finish by less than a minute. The National team of Aitken, Merz and Wilcox is one that will be conspicuous in the race. They are all familiar with the track, their headquarters being in Indianapolis, and one of the "blue streaks" is more than likely to be among the leaders. Len Zengle is alternate driver for this team.

The Case trio, Strang, Jaegersburger and Jones, are expected to be strong contenders, the first-mentioned driver in particular. Ralph Mulford, the 1910 stock car champion, and Harold Van Gerner, of Pittsburg, and practically a novice, along with Tetzlaff, constitute the Lozier team. Mulford, with all his experience, is expected to be heard of, but there are some doubts expressed as to Van Gerner's standing the pace in a long race. There has been a lot said of it being up to the car in a race of this sort, but the man behind the wheel has to be comparatively as good to have the combination figure in the contest.

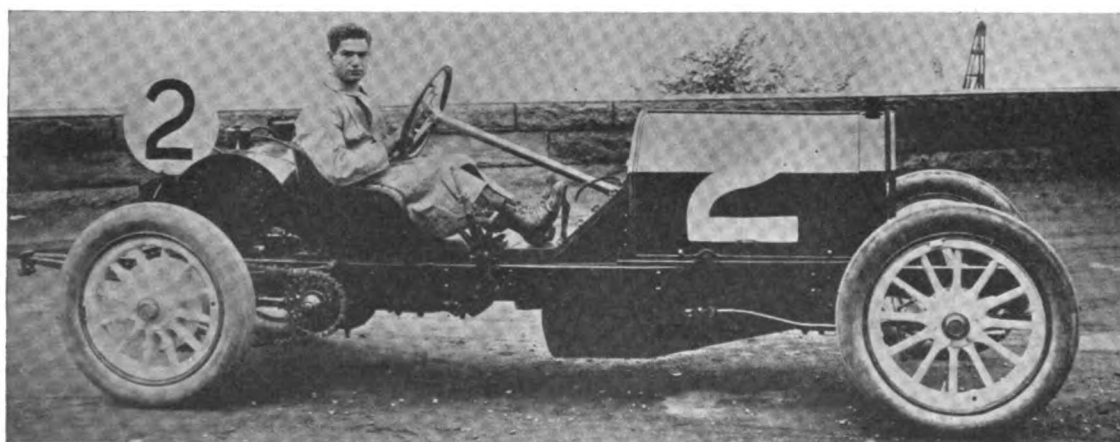
Ralph De Palma, the best mile-track driver in the country, is at the wheel of a specially-built Simplex, which has a piston displacement of 597 cu. in., with which he expects to win, or at least to keep up with the leaders. De Palma has not been very prominent in long-distance races, but he is an experienced driver, and will be at the wheel of a car that has been, to a certain extent, successful in the long-drawn-out grinds. The two Buicks, to be handled by Arthur Chevrolet and Charles Basle, respectively, with the daring Louis Chevrolet acting as alternate, have been specially built for the race. Arthur Chevrolet has

not been as conspicuous as his brother, but he has acted as mechanic for the latter in a number of contests. Charles Basle is one of the veteran drivers and a participant in a number of long grinds, particularly 24 hour races.

Ralph Beardsley, the erstwhile amateur, is at the wheel of another Simplex, of special construction. "Billy" Knipper, winner of the Light Car race at Savannah last fall, has been named to handle the second Benz car entered by E. A. Moross. Knipper's mount is not as large as Burman's and has a shaft drive. Burman's car is of the double chain drive type and is hung lower than his team-mate's.

Caleb Bragg, the rich New Yorker, and "Eddie" Hearne, the young Chicago driver, are driving Fiats of the same type. This is Bragg's first long-distance race, but Hearne has participated in several road races, including the last two Vanderbilt Cup contests and the Fairmount Park event. Spencer Wishart, a Westchester amateur, has entered the other foreign car in the race, a Mercedes. He took part in the last two Vanderbilt Cup races and made a good showing. Herb Lytle will be back at the wheel of his old love, the Apperson, and Belcher, winner of several hill climbs and participant in the last Vanderbilt Cup race, will drive a Knox.

There are quite a few smaller cars, which are to be driven by drivers who have made names for themselves in races of various kinds and who will be conspicuous in this race. The speedy little Mercers have several recent wins to their credit, as have the Cole and Fal cars. The Amplex, Velie, Inter-State, McFarlan,



RALPH DE PALMA, TRACK KING, IN HIS SPEEDWAY SIMPLEX

Jackson, Firestone Columbus, Stutz and Westcott outfits are also to battle for honors.

The scene of the big race is the Indianapolis Motor Speedway, about four miles out of the Hoosier metropolis, and it is the largest specially constructed automobile racing course in this country. It was built at an expenditure of approximately \$350,000, and is a two and a half mile oval. On the stretches, which are a mile long, the track is 50 feet wide and unfenced, while the turns are 10 feet wider and have a cement retaining wall or fence two feet high, which is used as a guard rail. The turns, which have a 1,500-foot radius, can be negotiated at high speed with perfect safety, being banked 12 feet. The track was originally of cement construction, but fatalities at the opening meet on August 19, 1909, resulted in it being reconstructed of vitrified brick.

The Speedway Park has an area of 328 acres. There are forty-one buildings, including garages, aerodromes, aviation sheds, club houses, cafes, restaurants, office buildings, oil houses and machine shops. The grounds are illuminated with gas and electric lights. The grand stands and boxes have a seating capacity of 55,000, and the entire grounds will accommodate 200,000. There are parking facilities on the grounds for 10,000 automobiles.

Railroad trains and interurban car service to the main gates of the grounds permit of the comfortable handling of 10,000 persons every fifteen minutes. Special telegraph and telephone wires connect the speedway with the city and the principal cities of the United States. These wires, together with wires for timer and 'phone systems at the quarter-mile, half-mile, kilometre and mile posts, as well as wires to team score boards on the back stretch and



"BOB" BURMAN, THE SPEED KING

score boards in the main sections of the grounds, are all carried in underground pipes.

Although the race is not scheduled to start until 10 o'clock, the gates to the Speedway will be thrown open to the public at 6:30, to allow time for the spectators to get settled before the cars are sent away. The "Speedway Guard," a force of about 300 men, will police the course, and automobiles will be allowed to cross the track to the infield until close to the starting time, when the automobile bridges spanning the course will have to be used. It is planned to have "Bob" Burman attempt

to set new short-distance records with his Benz about an hour before the big race starts, but as many of the entrants have protested against this plan on the ground that it gives Burman more publicity than them, this part of the program may be dispensed with. However, just before the start Burman will be presented with a magnificent gold crown at the track side by the Firestone tire people as a mark of appreciation for his record-breaking feats recently at Ormond, with a car equipped with that make of tire. Shortly before 10 o'clock the forty-six cars will be lined up at the starting line.

The System of Starting

One of the most serious problems that confronted the management was the system to be used in starting the forty-six cars on their long race. It was at first intended to line them up in rows of five, according to their numbers, and fire a bomb as a starting signal. There was considerable opposition to this plan, as it was declared that the smoke from the exhausts of the first few rows of cars would inconvenience the drivers in the rear, and accidents might occur.

As it is now arranged, the cars will be lined

up in rows of eight, and at 10 o'clock Carl G. Fisher, president of the Indianapolis Motor Speedway Co., will start on a lap of the course



DISBROW—BEACH DISTANCE CHAMPION

at a speed of forty miles an hour. Behind him will trail the forty-six cars, with the drivers having the privilege of jockeying for position, but not passing ahead of President Fisher. It is figured that at the completion of the first lap the smoke at the starting point will have cleared enough to eliminate danger from that source.

As the leading car finishes the first lap the pace maker will draw to one side and Starter Fred Wagner will flash a flag simultaneous to the explosion of a bomb, which will unfurl an American flag in the air, and the race will be on. Just before the first lap, a bomb will be exploded each minute for five minutes, the fifth bomb to be the signal for the pace maker.

Even a more gigantic problem than the start had to be solved by the promoters, and that was the system of scoring cars. While the official timing apparatus will be used, it is realized that the machine is entirely inadequate to score such a large number of cars on a comparatively small circuit. Twenty-five cars are likely to depress the wire connecting the electric timing device within ten seconds at the end

of the initial lap, and, while their time would register, there would be the utmost difficulty in assigning the correct figures. The management has devised an entirely new system of scoring, and in order to do this work accurately more than 100 men will be used throughout the seven hours, with 50 others as relief men.

Mechanical and electrical devices have been called upon to perform the greater part of the work. An electrical timing machine, which divides the seconds into hundredths, will catch each car as it passes the wire on every lap, while a battery of four adding machines will be used to record the number of cars as they pass. Two dictaphones will carry the record of the car numbers in the order in which they flit by the stand. This last record will have the story of the entire race in human voice, the first time this has ever been attempted.

Reinforcing this squad of mechanical workers will be four score boards, each 100 feet in length and each employing more than twenty men to operate it. These will catch each car as it passes the wire and credit it with a lap each



DAVID L. BRUCE BROWN

time it crosses. A telephone system, which has more than twenty instruments attached, will convey information to a score of announcers in all parts of the grounds, and the visiting

throng will be informed of the status of the race every ten miles of its progress.

Accommodating the Spectators

Ambitious preparations have been made for the accommodation of the big crowd that is expected to witness the race, and the seating provisions have been improved so that close to 60,000 will be able to comfortably see the running of the race from stands, several of which have been specially erected for the occasion. From the present demand for tickets, the expectations of the promoters concerning the crowd are apt to be realized. More than 100,000 people are expected to visit the Hoosier speedway for the purpose of witnessing the race. Motoring enthusiasts from all over the country will be in Indianapolis for the Decoration Day race. Special trains will be run from New York, Chicago and several other cities to the scene of the big event. Reports show that all the hotels have reservations for their rooms and the boarding houses have also been hired for the purpose of accommodating the visitors. Private residences are also to be used to house the crowd.

Roads from Louisville and Chicago to Indianapolis have been posted by the speedway management. The guide signs are round metal discs in blue with white lettering, a hand pointing the route to Indianapolis. There are four or five of these signs to the mile, and one sign on each side of the road at cross-roads.

The officials for the race have been chosen from all over the United States, most of them having been officials at many of the other great race meets of the country. Fred J. Wagner, of New York, will act as starter. A. R. Pardington, of New York, will act as referee, while R. P. Hooper, president of the American Automobile Association, will be the honorary referee. Judges and other officials have been chosen from among the most prominent manufacturers and automobile men in the Middle West.

Starting last Tuesday, the work of examining the cars entered in the race to learn whether they conformed with the conditions or not was commenced by F. E. Edwards, chairman of the Technical Committee of the American Automobile Association, but certificates will not be issued until after the cars have been tried out as to their speed abilities. The conditions require that a speed of at least 75 miles an hour be shown. On Friday (May 26)—too

late for this issue—the cars will be sent over a measured mile course, and those not showing up the required speed will be eliminated. It is not likely, however, that any of the cars will fail to make an average of 75 miles.

The track took on an appearance of real activity during the last week, as most of the drivers have already arrived at the scene of the



LEWIS STRANG

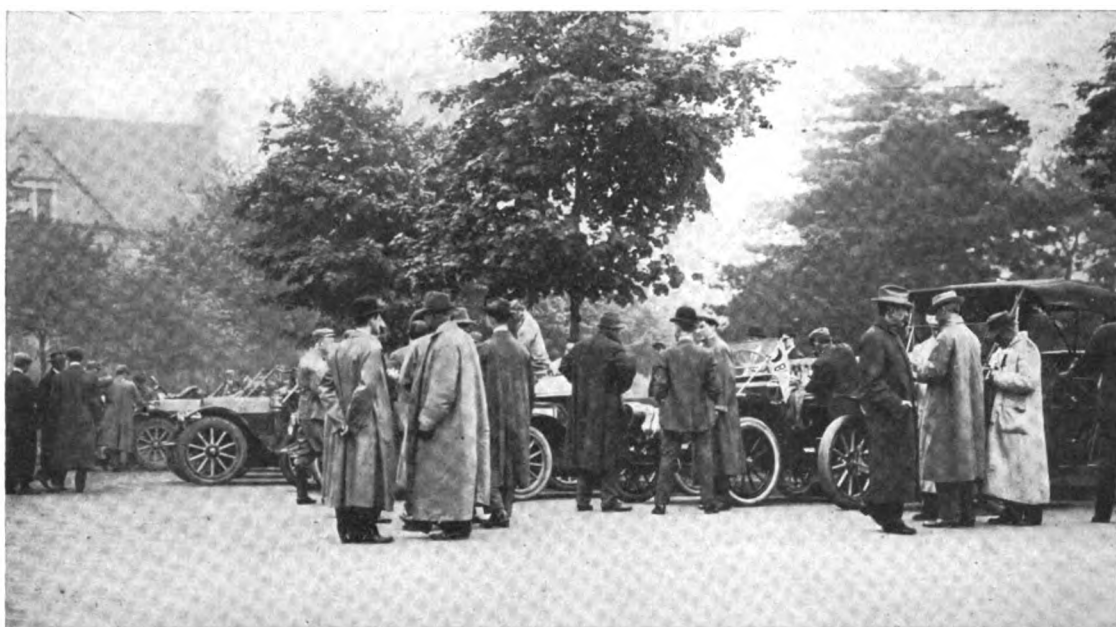
contest. During the trial spins some of the cars showed fast times. Among the drivers who have been conspicuous in practice are De Palma, Wishart, Mulford, Bruce-Brown, Wilcox and Tetzlaff. On Tuesday, May 23, Spencer Wishart drove his Mercedes seventeen laps at an average speed of 1:56 for each of the two and one-half-mile circuits, and then ran eight laps at an average speed of 1:50, or nearly 82 miles an hour. De Palma, in his Simplex, reeled off three laps at an average of 1:51, making his best lap in 1:50. David Bruce-Brown, in his Fiat, drove fifty-nine laps, or 147.5 miles. Bruce-Brown changed four tires and averaged 1:55 for the fifty-nine laps, making several laps toward the end of the run in 1:53. Ralph Mulford, in a Lozier, averaged 1:56 for fifteen laps, and made his best in 1:53. "Teddy" Tetzlaff, his team-mate, drove twelve laps at an average of 1:56, making his best lap also in 1:53. "Jack" Tower, in a Jackson, averaged 1:57 for the four laps he drove at high speed. "Howdy" Wilcox, in his National, made ten laps at an average of 1:55, with 1:50 for his best lap. Frank Fox, in a Pope-Hartford, made three laps at an average speed of 1:53.

Motorists Again Win in Inter-Club Run

The second annual inter-club run of the Long Island Automobile Club and the Crescent Athletic Club, two Brooklyn, N. Y., organizations, was held on Saturday and Sunday, May 20 and 21, over Long Island roads and resulted in a victory for the automobile club members. The L. I. A. C. had an average penalization of 42 points and the C. A. C., 48 points. As this is the second time that the L. I. A. C. has proven a victor in the runs, the Pardington Trophy becomes its permanent property. It is said that this will not result

ers, the automobile club furnishing seven and the athletic club eleven. It was at first intended to have each club represented by a team of fifteen cars, but the entries did not come in as fast as was expected, even though the closing time was extended.

The bonnets and starting cranks of the cars were sealed and, commencing at 7:25, the cars were headed in the direction of Riverhead, the first night's stopping place, 170 miles distant. In addition to the cars that represented the clubs about twenty other machines started



PROSPECT PARK PLAZA, BROOKLYN, JUST BEFORE THE START

in the run, which is considered one of the social events of the season in motoring circles in Brooklyn, being abandoned, as several members of the Automobile Club have expressed their willingness to donate other trophies to take the place of that just won.

While the run this year did not have as many entrants as was anticipated, owing to various causes, it was a very enjoyable and successful affair and did much to bind together the two big organizations. When the cars assembled in the Prospect Park Plaza, in front of the headquarters of the automobile club at about 7 o'clock on Saturday morning, the weather looked so threatening that rain coats were at a premium. There were in all eighteen start-

ers on the two-day trip. The official list of starters was as follows:

Long Island A. C.

- No. 3—J. F. Frazee, Regal.
- No. 5—H. G. Andrews, Buick.
- No. 7—William Schimpf, Royal.
- No. 9—Harry Grattan, Stevens-Duryea.
- No. 21—E. B. Jordan, Jr., Pope-Hartford.
- No. 23—A. W. Swanstrom, Chalmers.
- No. 27—C. H. Humphreys.

Crescent A. C.

- No. 2—George Brower, Franklin.
- No. 4—James Masterman, Chalmers.
- No. 6—G. W. Cropsey, Nordyke-Marmon.
- No. 8—W. H. Stiles, Buick.
- No. 10—G. J. Patterson, Stearns.
- No. 12—F. C. Whitley, Locomobile.
- No. 14—W. H. Brown, Chalmers.
- No. 16—Lowell M. Palmer, Palmer-Singer.



THE ARRIVAL AT LONG BEACH

No. 18—H. C. Pulis, Maxwell.

No. 20—F. C. Loughlin, Hudson.

No. 22—A. P. Palmer, Palmer-Singer.

The officials at the starting point were Frank G. Webb, chairman of the L. I. A. C., and also in charge for the American Automobile Association; H. G. Martin, chairman of the C. A. C. Committee, and Lewis T. Weiss, who represented the A. A. A. on technical matters. All of the contestants arrived at Riverhead about 4 P. M. and were treated to a royal welcome by the local automobilists. No official announcement was there made regarding penalizations, but it was reported that several of the cars had met with difficulty on the way down the island and there had been repairs and adjustments made. On Saturday evening the visiting motorists attended a vaudeville entertainment in the Riverhead theatre.

At 8 o'clock on Sunday morning the caravan started on the last lap of the run, the route taking them first to Greenport, thence back to the North Shore roads to Bay Ridge. The weather was ideal but the roads a trifle too dusty and when the motorists arrived at the Crescent club house in Bay Ridge, the finishing point, they were pretty well travel stained. The noon control was established in Smithtown and from there many of the contestants lead by A. R. Pardington, made the journey

to Bay Ridge via the Long Island Motor Parkway.

After all the reports had been turned in and examined the committee in charge of the run announced that the Automobile Club had again won the trophy, six of its cars finishing with perfect scores and one being disqualified. The disqualification of a car entailed a penalization of 300 points and as this was the only bad mark against the club its average penalization was 42 points a car. The Crescent motorists were less fortunate, seven of their cars finishing with perfect scores, while one was disqualified, penalizing the team 300 points, one was penalized 25 points, another 95 points and another 155 points. This brought the total penalization to 537 points, an average of 52 points per car. Chairman Webb refused to disclose the names of the cars that were penalized or disqualified.

Motor Boats Must Have Mufflers

The New York Department of Health officials threaten to become very active this season in the enforcement of the ordinance requiring motor boats plying the waters adjacent to New York City to be equipped with mufflers. Commissioner Lederle has ordered a thorough inspection.

Ruling on Chauffeurs's Licenses

By a decision of the full bench of the Massachusetts Supreme Court on May 19, it was held that while it is a punishable offense to operate an automobile without a chauffeur's license, the absence of such a license does not make the operator a trespasser upon the highway so far as his civil rights are concerned in case of an accident. The court holds that an unlicensed person may operate an automobile, if riding with, or accompanied by, a licensed chauffeur or operator.

This decision was handed down in the personal injury suits of Timothy C. Bourne and May A. Davis against William P. Whitman and his son, Richard P. Whitman, age 16, arising out of a collision at Falmouth between the automobile of Bourne and the machine of the elder Whitman, driven by his son. Bourne was awarded a verdict for \$1,000 and Miss Davis one for \$100 against the elder Whitman.

Young Whitman's chauffeur license had expired the day before the accident, as his application for a new license was not granted until a few days later. Riding with young Whitman at the time was Dr. Harold O. Hunt, who held an operator's license.

Two Big National Highways Proposed

Representative Hobson introduced into the House of Representatives in Washington on May 17 a bill which provides for the construction of national automobile highways extending the full length north and south and east and west across the country. The bill authorizes the appointment of two commissions, its members from various States, to work out two gigantic improvements, one a highway to extend from the Atlantic to the Pacific Ocean along the thirty-fifth parallel of north latitude; the other to extend from Canada to Mexico on a line near the twenty-third meridian west from Washington.

These highways, the bill provides, shall be known as the National East-West Auto Highway and the National North-South Auto Highway. The Atlantic Pacific highway provided for in Representative Hobson's bill would run through the southern end of North Carolina, the northern section of South Carolina, on the border line of Tennessee and Alabama and Tennessee and Mississippi, through the center of Arkansas, Indiana, northern part

of Texas, the center of New Mexico and Arizona and the southern part of California. The North-South highway would run through North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Indiana and Texas.

A Superintendent is a Fellow Servant

In an opinion handed down by one of the Massachusetts Supreme Court judges on May 20, drivers of automobiles are legally classed as manual laborers. The decision is given in the case of the widow of George J. Buckley, who sued the Dow Portable Electric Company for \$5,000 for the death of her husband. Buckley was mortally injured by being jounced from the rear of the company's automobile in Braintree.

It was alleged that Alvah Dow, superintendent of the company, was operating the automobile at the time and that he was speeding when Buckley was thrown off. The court said: "The driving of the car was not superintendence, but manual labor. It involved no element of supervision. Dow was merely a fellow servant. Under the law the defendant is not responsible in damages for this accident so far as it affects a fellow laborer. Judgment is ordered to be entered for the defendant."

French Makers for Postponing Grand Prix

Word was received in this country during the last week that the French manufacturers had requested of the promoters of the Grand Prix race that the date of that contest be extended from July 9 until August 20 or September 2. It is explained that the French makers are asking for more time in which to prepare to compete with the American built cars that have been entered or promised for the race. "Senator" W. J. Morgan, the American representative of the French club, cabled the promoters that he was opposed to the postponement and that he believed an American car will win the race. The closing time for the entries has been extended until June 1 to permit the participants in the 500-mile race at Indianapolis to enter their cars if they come through the grind safely.

The initial meeting of the Yale Aero Club held on Yale Field, New Haven, Conn., on May 19 and 20, was a success, despite the rain on the first day.

Vedrine Leads in Paris-Madrid Flight

The first of a series of great acroplane cross-country flights—the Paris-Madrid race for which prizes aggregating \$30,000 have been offered—was inaugurated on May 21 with a tragic accident in which Henri Maurice Berteaux, the French Minister of War, was killed and Antoine Emmanuel Ernest Monis, Premier and Minister of the Interior, and several others were seriously injured. The killed and injured men were gathered at Issy-les-Moulineaux along with about 200,000 other spectators to witness the start of the race from Paris to Madrid, when one of the aviators, M. Train, lost control of his monoplane and the craft dashed into the crowd.

Four aviators remained in the race after the accident and at this writing (Wednesday) Peirre Vedrine, holder of a number of cross-country flights records, is leading. Vedrine, Frey, Gilbert and Garros are in the race. The first section of the trip was from Paris to Angouleme, 279 miles distant, and Vedrine completed this flight in the remarkably fast time of 3 hours and 43 minutes, breaking the world's record for distance in a cross-country flight. The running time for the Paris-Angouleme express train is 5 hours 18 minutes.

Frey had only traveled a short distance when his machine turned turtle in a squall and plunged to the ground near Etampes. The aviator was uninjured and prepared to continue in the race. Gilbert lost his way and arrived in Angouleme far behind time. The other flier, Garros, was the first to arrive at the first stopping point. On the night of his arrival at Angouleme Vedrine prepared to give exhibitions, but had difficulty with his machine and the large crowd that gathered became angry at the delay and attempted to wreck the machine and aviation houses, but soldiers repulsed them.

The second stage of the flight took the aviators into Spain and on May 23 they were on their way to San Sebastian, in Spain. The weather was foggy at the starting point in Angouleme, but Roland P. Garros, who was the first to get started at 5:15, soared away through the mist in beautiful form and at a good height. Gilbert got away five minutes later and then there was a pause until Vedrine took wing, at 7:10 o'clock. As each ma-

chine buzzed into the fog and disappeared racing automobiles headed for Spain in the direction in which the fliers were bound to render them assistance should any have to descend.

Spare parts and supplies of petrol were carried in the autos. To care for the interests of the aviators in crossing the Bay of Biscay from France to Spain the gunboat MacMahon patrolled the strip of water they were to fly over.

Vedrine, although the last to start from Angouleme, was the first to complete the flight. When he landed at San Sebastian, at 11 A. M., he declared that the flight was the toughest of his career, owing to the fog and the adverse winds which he encountered.

Garros did not come to earth at the finish of the second stage until 11:31 o'clock. He had been forced to descend at Fort Guadalupe, near San Sebastian, because his supply of petrol became exhausted. It was this descent that led to the first rumor that an aviator had fallen near the fort.

Gilbert sent word from Biarritz that he had come to earth there because of trouble with his magneto and through lack of petrol. It was about 9 o'clock when he landed there and he reported then that he had been flying aimlessly in the fog for two hours and had completely lost his bearings. Then he found it necessary to descend and get close enough to earth to distinguish the country beneath.

The Paris to Madrid race is for a prize of \$20,000 offered by the *Petit Parisian* to the competitor who finishes first in the general classification. Spanish aero clubs added \$10,000 and King Alfonso has offered a special prize. The race is under the control of the Aero Club of France and under the patronage of the French Ministry of War. It is to be raced in three stages.

Stops are authorized, but machines cannot be towed at a greater rate than a man walking. Fresh supplies and repairs are authorized at stops and the ends of stages, but changes of apparatus are authorized only at the ends of a stage. The same pilot cannot change the marked apparatus with which he reaches the end of a stage except for an apparatus of the same type and the same mark.

Toured from Seattle to Los Angeles

That Southern California is an ideal touring ground is the opinion of George O'Reilly, of Seattle, Wash., who has been sampling the roads of that section of the Golden State. In the party were Mrs. O'Reilly and Mr. and Mrs. A. E. Blackburn, of Vancouver, B. C.

"Regarding conditions in the country through which we toured, I have nothing but the highest recommendations to offer," said Mr. O'Reilly. "The roads on the whole were very good. In some places we encountered rough spots, but these were offset by the large portion of fine thoroughfares. We took the inland route from Los Angeles to San Diego, and as far as Riverside found the roads in excellent condition and the scenery pleasing. Leaving Riverside, we passed through a beautiful country, touching at Elsinore, Murietta, Temecula Reservation and over the Moose Canyon into Escondido.

"Along this route are hotels and resorts, where refreshments and excellent service are to be had. From Escondido to San Diego

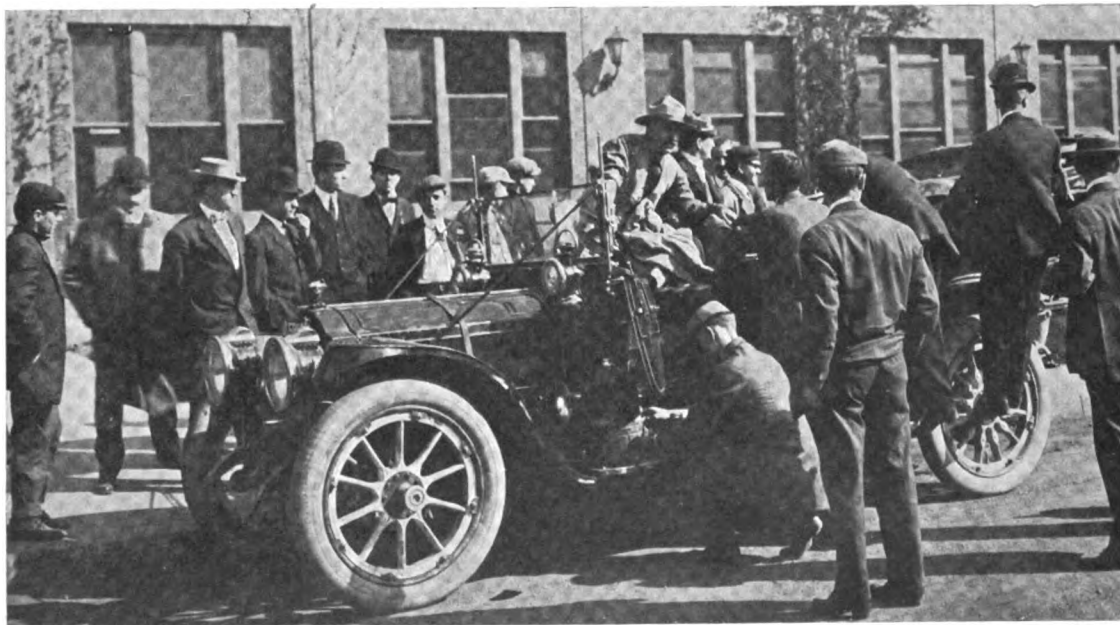
the road cannot be surpassed for smoothness and scenery. After a short stay in San Diego, we set out for Tia Jauna. At Tia Jauna, we were forced to submit to a thorough investigation by army officials, and then told to get out of town, as a skirmish was expected any minute.

"On our trip from Los Angeles to San Francisco, we took the coast route, touching El Rio and the adjacent country, where on every side for miles vast grape orchards and blooming fields of alfalfa meet the eye. We found Pismo Beach one of the finest resorts in that section of the country. Here there is a drive of more than eighteen miles along a beach road so hard a car leaves no imprint in the sand. From Pismo to Salinas, my car made from 40 to 60 miles an hour, the road being so smooth that we almost felt we were riding in an airship. After a pleasant trip through more beautiful country, we landed in San Francisco, covering in all about 3,100 miles. I cannot speak too highly of the Winton."

Testing in the Jackson Hole Country

With what is left of thirty days' rations stowed away in the tonneau, gasoline cans attached to the running boards, and a tent, cook-

ing stove, utensils and other necessary what-not filling every inch of available space, three Packard executives are now in Wyoming on



READY FOR THE START—H. B. JOY AT THE WHEEL

PROPERTY C

THE MICHIGAN JOURNAL

NOT TO BE REMOVED FROM



CAMPS OCCUPIED BY PACKARD PARTY

a six weeks' test run in a 1912 Packard "Six." In the party are Henry B. Joy, president; Russell Huff, chief engineer, and E. F. Roberts, general superintendent. All are dressed for roughing it, Mr. Joy in a suit of khaki, sombrero and flannel shirt, and the others similarly clad. They have avoided stopping in cities, staking out their camp when necessary but reducing stops to a minimum.

The start was made Monday, May 8, and after leaving Chicago they followed the established transcontinental route across Illinois,

Iowa, Nebraska and Wyoming. The party is now in the famous Jackson Hole country in the southwest corner of Wyoming.

"Jackson Hole" is just what its name implies. It is perhaps the wildest and most inaccessible region in the entire United States, with not a road to boast of which is not a bumpy, stony, sandy, misnomer. Some idea of its isolated character is conveyed by the fact that it is the winter rendezvous of northern moose making their final stand against the ravages of hunger.

No Perfect Scores in "Four-Leaf-Clover" Run

Not a car completed the converted "Four-Leaf Clover Sociability Run" of the Automobile Club of Washington, which was held on May 15, 16, 17 and 18, with a perfect score, and of the thirteen starters five failed to finish the approximately 600-mile run. Each day the starting and finishing point was in Washington, the night control on the first day being at Gettysburg, Pa.; second, York, Pa.; third, Hagerstown, Md., and fourth, Leonardtown, Md. In last week's issue an account was given of the first two days of the run. During the last two days the route took the contestants over the hilly roads of Maryland, which were not in the best of condition.

H. G. Machen, driver of a Ford car in

Class 1A, for cars selling for \$800 and under, was the winner of the sweepstakes prize and also that offered for his class, the total number of points marked against his car being three, which were incurred for a stalled motor on three different occasions. The second best score was that of I. C. Barber, who drove a Warren-Detroit in Class 3A, \$1,201 to \$1,600. He had a total of 55 points marked against him. These points were for replacing two tires at the Hagerstown control and it was claimed that this work was done without the knowledge of the driver. The cars that won in the other classes, with their penalizations, are: 2A, Regal, 126 points; 4A, Velie, 88 points, and 5A, Stoddard-Dayton, 205 points.

To Hold an English Stock Car Race

A competition for stock cars, styled the "standard car race," is to be promoted by the Royal Automobile Club on the Brooklands race track on Tuesday, June 13. As its name indicates, the race is designed for cars standard in every particular. The distance to be run is about 277 miles. Following are the most important rules:

The distance of the race is 100 laps, i.e., about 277 miles, the start and finish being on the same line.

The race is for four-cylinder cars, the R. A. C. rating of whose engines shall not be more than 15.9.

The minimum weight of a car shall be 1,600 lbs. This weight is the weight of the vehicle ready for the race—that is to say, as it will compete, including driver and mechanic, fuel, tools and other appliances. A mechanic may, but need not, be carried; no other passengers will be permitted.

The chassis, and particularly the engine, must be of a design which is, or is intended to be, made during 1911, a standard for touring cars by the manufacturer. No car which is not considered to be a standard car by the judges will be permitted to start.

Any type of body may be fitted.

The entry fee is £5 per car. The entry fee will be returned in full if no race is held, but otherwise will not be returned.

The cars will assemble at 9:30 on the morning of the race in the paddock, where they will be weighed.

One driver shall drive throughout the race. Only the driver and his mechanic shall be allowed between the start and finish of the race to effect any repair or replacement, or in any other way assist the car.

There will be a depot under the official supervision of the Club, from which competing cars may be replenished with fuel and water, and from which drivers and mechanics may obtain such spare tires as they require. The use of removable rims or wheels is authorized. No replenishment or spares may be taken up at any part of the course other than at the depot.

All cars competing in the race shall be fitted either with a first receiver close to the engine and an exhaust pipe therefrom reaching as far as the back axle, or with an exhaust pipe and efficient silencer.

A prize of £100 will be awarded to the first car to complete the distance. There will be also second and third prizes of £40 and £10 respectively.

Fifty German Cars in Cup Tour

This year's Prince Henry Cup tour is to be participated in by only two nations—Germany and Great Britain, and fifty cars from each country are to compete. Germany's team has already been selected, and is as follows:

1. H. R. R. Prince Henry of Prussia (Kiel).
2. H. Wendt (Berlin).
3. M. Talbot (Berlin).
4. M. Kappel (Berlin).
5. Englebert Maria Duke d'Arenberg (Nordkirchen).
6. M. Ephraim (Gorlitz).
7. Dr. J. von Bleichroder (Berlin).
8. E. C. von Friedenthal-Falkenhausen (Friedenthal).
9. N. de Villeroy (Paris).
10. Prefect von Marz (Hamburg).
11. Count Georges Orssich (Oroslage).
12. Max von Wogau (Berlin).
13. C. O. Fritsch (Wiesbaden).
14. Count Felix Chamare (Stolz, nr. Frankenstein).
15. President of the Meister Government (Wiesbaden).
16. Dr. O. Reichenheim (Berlin).
17. L. von Knoop (Wiesbaden).
18. Von Coester (Sohnbankwitz).
19. Consul-General C. Stollwerck (Cologne).
20. F. Wegeler (Konigswinter).
21. W. Poge (Chemitz).
22. E. Emgler (Frankfort-on-Main).
23. Dr. K. Frankel (Neustadt).
25. M. von Guillaume (Cologne).
26. G. W. Buxenstein (Nuremberg).
28. W. Schmidtman (Berlin).
29. Dr. A. Hildesheimer (Vienna).
30. K. von Boddien (Leissenen).
31. A von Recklinghausen (Chateau de Hackhausen).
32. A. W. Pohch (Leipzig-Gautzch).
33. F. R. von Klaudy (Vienna).
34. P. Kolbe (Frankfort-on-Main).
35. Lieut. E. Greiling (St. Avold).
36. G. Hermsdorf (Chemnitz).
37. A. Mertes (Niederbresig).
38. A. Ruperti (Moscow).
39. A. Charlier (Cologne).
40. C. F. Wahl (London).
41. J. Schneider-Dorffel (Partenkirchen).
42. Count Auguste von Spee (Strasburg).
43. Count Adolphe von Arnim (Blumberg).
44. Prince Karl zu Isenburg (Chateau de Berstein).
45. H. von Achenbach (Berlin).
46. E. B. di San Giorgio (Berlin).
47. Prince Heritier Adolphe de Schaumbourg (Lippe, Bonne).
48. Baron Claus von Tiele-Winkler (Berlin).
49. Dr. jur. Stoss (Zwickau).
50. J. P. H. de la Croix (Berlin).

Active Motor Boat Racing Season Promised

This season will be a very busy one for followers of the sport of motor boat racing. The most important event will be the series of races for the British International, or Harmsworth Trophy, which will be held on Huntington Harbor on August 24, 25 and 26. Many other important contests will be held as will be shown by the following schedule:

May

- 28—New York Motor Boat Club.
- 30—Camden Motor Boat Club.
- Farragut Sportsmen's Association.

June

- 3—Edgewood Y. C. Markham cup.
- National Y. C.
- 10—Columbia Y. C.
- Delaware River Club, Torresdale, Pa.
- National Y. C.
- 11—N. Y. Motor B. C.
- 17—Bermuda race, Motor B. C.
- 18—N. Y. Motor B. C., Tarrytown Light race.
- 22—Portland P. B. A. cruise.
- 24—Camden Motor B. C.
- N. Y. Motor B. C., club.
- New York A. C., Block Island.
- National Y. C.

July

- 1—N. Y. Motor B. C., Albany race.
- Stone Harbor Y. C.
- National Y. C., Cape May.
- 2—Pacific Int. P. B. A., start from Vancouver, 235 miles.
- 4-6—Mississippi Valley P. B. A., Dubuque.
- 4—City Island Y. C.
- Farragut Sportsmen's Association, Camden.
- New England Mfg. Ass'n, City Point, Boston.
- 8—Yachtsmen's Club, ocean race.
- N. Y. Motor B. C., club.

Fall River Y. C.

National Y. C.

13—Fall River Y. C.

14—Marblehead race, Motor B. C., Huntington.

15—Seaside Y. C., Atlantic City.

Camden M. B. C., Reedy Island race.

National Y. C., club.

16-17—Philadelphia Y. C.

18-20—Interlake Assn., Put-in-Bay.

22—Halifax race, National Y. C.

29—Ventnor Y. C., Atlantic City.

August

- 4—New York to Camden, N. Y. Motor B. C.
- 5—Ocean City Y. C.
- N. Y. Motor B. C., club.
- National Y. C.
- 7-12—Frontenac Y. C.
- 7—Scripps reliability cruise, start Detroit.
- 8, 9 & 10—Gold challenge cup, Frontenac Y. C.
- 8, 9 & 10—Great Lakes P. B. League, annual meet.
- 12—Sea Isle City Y. C., Atlantic City to Cape May.
- 16-19—Motor B. C., trial races.
- 19—Wildwood Y. C.
- N. Y. Motor B. C., club.
- National Y. C., club.
- 24, 25, 26—British International cup races, Huntington.
- 26—Cape May Y. C.

September

- 2, 3, 4—City Island Y. C., cruise.
- 2—N. Y. Motor B. C., club.
- 4—Hudson River Y. R. A., Yonkers.
- 4-9—Motor Boat Carnival, Huntington.
- 9—Camden M. B. C., speed boats, open.
- 17—N. Y. Motor B. C., economy race.
- 23—Farragut Sportsmen's Association.
- 24—N. Y. Motor B. C., Rockland Light race.

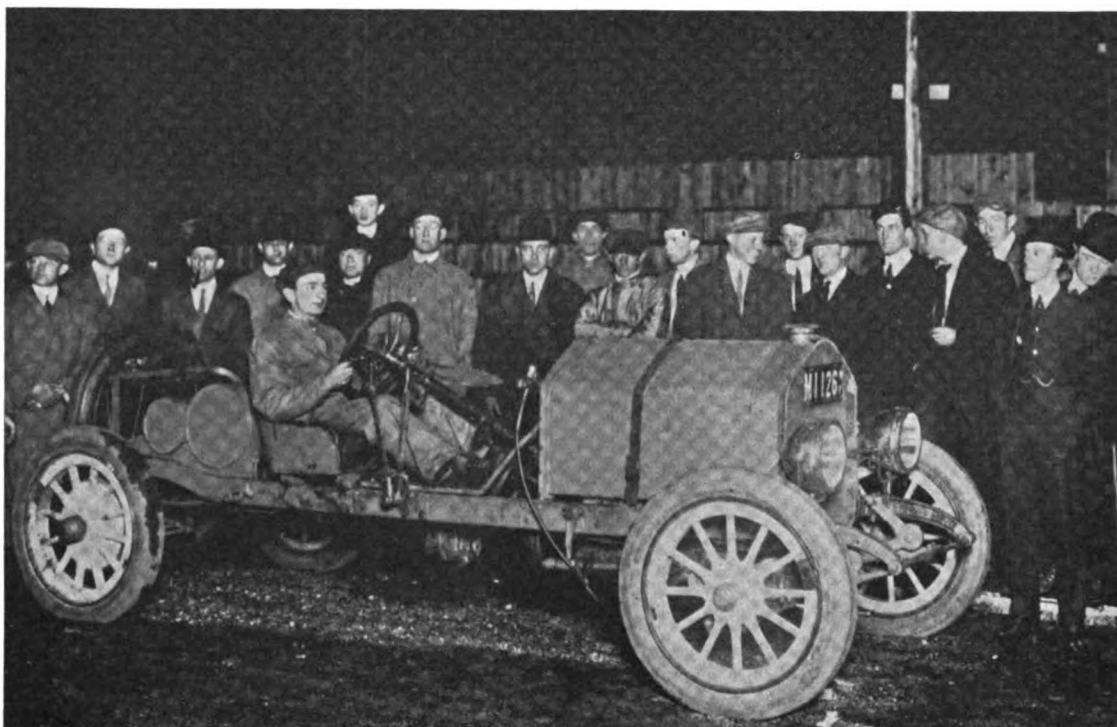
Burman Travels Fast in Night Test

"Wild Bob" Burman added another record to his string on Thursday, May 18, when he annexed the title of "Champion Night Rider" after a speed trial over the Long Island Motor Parkway shortly after midnight. Burman drove a National 40," the one used by Howard Wilcox when he established the stock car straightaway record at Ormond recently, and he demonstrated that with the proper equipment it is possible to speed as safely in the night as during the day. He covered a half mile in 22 2-5 seconds, at an average speed of 80.35 miles an hour. A heavy rainstorm that visited Hempstead Plains previous to the start of the trial caused considerable delay and some amusing surprises to those that went to

the Parkway to see the tests, which were arranged by the Remy Electric Company whose magneto light made it possible for Burman to see the road for more than half a mile in front of him.

In all Burman made three trials and each was clocked by well known racing officials: S. M. Butler, A. R. Pardington, Charles E. Forsdick and Harry Knepper. With Burman rode H. G. Deupree, who volunteered to act as mechanic. F. E. Moskovics officiated as starter. Speaking of his experiences, "Bobby," who is a most conservative racing pilot, said:

"This night riding is something I never before experienced, but I like it's taste and now have added it to my racing menu because it's



"BOB" BURMAN JUST BEFORE HIS MIDNIGHT DASH ON PARKWAY

as safe as traveling in broad daylight. That is, of course, if the machine is equipped with proper lighting apparatus. As I was coming down the Parkway I could see the road ahead for several hundred yards and for a time I for-

got it was night. It was more like traveling by sunlight. Broadway may boast of its white way but before long there will be a white way wherever there are cars equipped with the Remy magneto light."

Herdsmen Use Automobile in Round-up

When a party of Nevada ranchmen wanted to go down into the Big Pine, Cal., region recently, for the purpose of rounding up and driving to the National Forest Reserve a herd of cattle they had been wintering there, they resorted to the automobile as being the quickest means of conveyance. The expedition, headed by H. K. Spaulding, started from Reno in a Dorris car, and the trip of something over 400 miles to Blackburn's ranch at Big Pine was made in very rapid time, despite the fact that almost impassable roads were encountered. All members of the party were most enthusiastic over the possibilities of the automobile for herding purposes, as a similar trip made on horseback in former years would have taken anywhere from two to three times as long.

Big Pine is located in the Owen River Valley in Southeastern California. It is in the

heart of a most decided desert region, a little to the northwest of the famous Death Valley section. All of the territory in this vicinity is noted for its cattle raising, but because of the lack of roads automobiles have not been used to any great extent as yet.

The Nevada herders were prepared for almost any emergency, as the accompanying illustrations indicate. They carried a complete equipment of provisions, bedding, etc., and as they were at times over fifty miles distant from any water supply, a quantity of this precious liquid had to be carried, to say nothing of an extra gasoline and oil supply. Shovels and firearms were also carried, and the condition of the roads gave the party plenty of occasion to use the former implements.

Two mountains lying to the east of the celebrated Sierra Nevadas were crossed, one at



NORTH END SUMMIT OF WHITE MOUNTAINS, CAL.

an elevation of 8,000 feet and the other at 7,000 feet. The roads in places here were found to be little more than cow trails. Particular care was taken to see that proper tire pressure was maintained at all times, and although

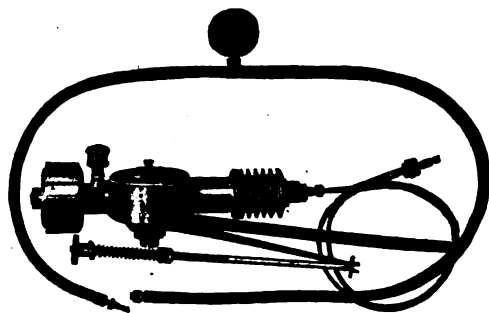
sharp and rugged stones were driven over, no tire trouble was experienced. The desert of the Upper Owen Valley country provided the greatest difficulty, deep sand preventing traction at times.



DESERT OF THE UPPER OWEN VALLEY, CAL.

Hand and Mechanically Operated Tire Pumps

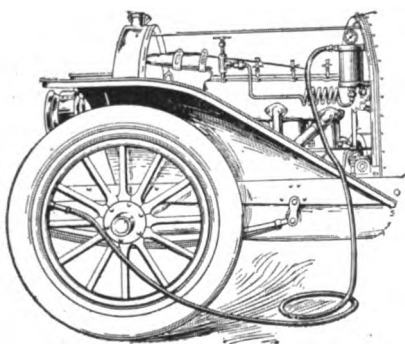
Undoubtedly one of the greatest inconveniences experienced by the average motorist is that due to the necessity of tire inflation. Mechanical devices for inflation purposes, that can be attached to or carried in the car, are of comparatively recent origin, and the majority of car owners still stick to the hand pump.



"THE LITTLE WINDJAMMER"

Perhaps every motorist knows what a painful ordeal it is to have to blow up a tire on a hot midsummer day, and if his pump happens to be in a weakened or leaky condition he experiences great difficulty and may find that his automobile tour has been robbed of half its pleasure.

Tire expense is one of the biggest items in the maintenance of an automobile, and it behooves every owner to see to it that his tires are kept inflated to the proper air pressure at

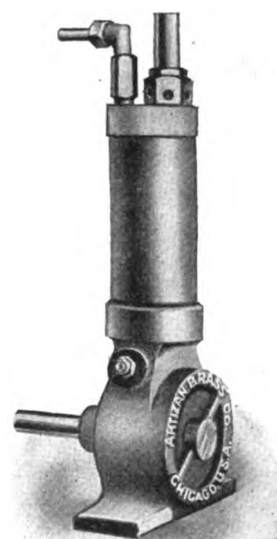


"GEM TIRE INFLATOR"

all times. This is well nigh impossible unless the inflating equipment is reliable, and of an easy-working character. A pump, whether it be mechanically operated or one of the hand type, is something every motorist must have, and the following matter is given with a view

to aiding AUTOMOBILE TOPICS readers in their purchases:

"The Little Windjammer" is the name of a mechanically operated pump, manufactured by the Rohrbacher Automatic Air Pump Co., of Portland, Ore. This pump, which is here illustrated, is driven by means of a friction wheel coming in contact with the face of the engine fly wheel. When it is desired to set the pump in operation, the turning of a knob will bring the two wheels into contact, and it is claimed that a 3½ inch tire can be inflated to 70 pounds pressure in less than two minutes. Each pump is equipped with a tire pressure gauge, so that



ARTIZAN CO.'S "ABC"

the proper pressure can be obtained without difficulty of any kind. The price of "The Little Windjammer" complete is \$25.

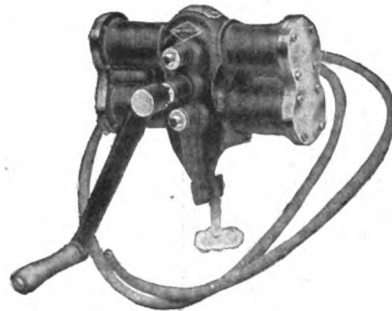
Another friction-driven pump, designed for use in connection with the fly-wheel, is the Bastian, made by the Olney Automobile Co., of Philadelphia. This is a two-cylinder pump and it is so arranged that if the fly-wheel can not be utilized it is possible to attach it to the pump or magneto shaft. The former method of attachment is recommended by the makers, however, as it allows the pump to run at high speed with slow speed of engine. A twelve-foot hose is furnished with each pump, so that all tires can be reached.

The Auto Specialty Company, of Dayton, Ohio, manufacture the "Gem Tire Inflator," which is used in connection with one of the engine cylinders. This concern's device sells for \$15. The illustration shows the best way to connect the "Gem." When in operation the compression is taken from one of the cylinders through a check and globe valve. The gases are cooled by passing through a copper coil, and then through a specially arranged filter, which removes any scale, foreign substance and surplus moisture. Circuit breakers are provided for the cylinders not in use, so that they are cut out during inflation, the explosions occurring in one cylinder only.

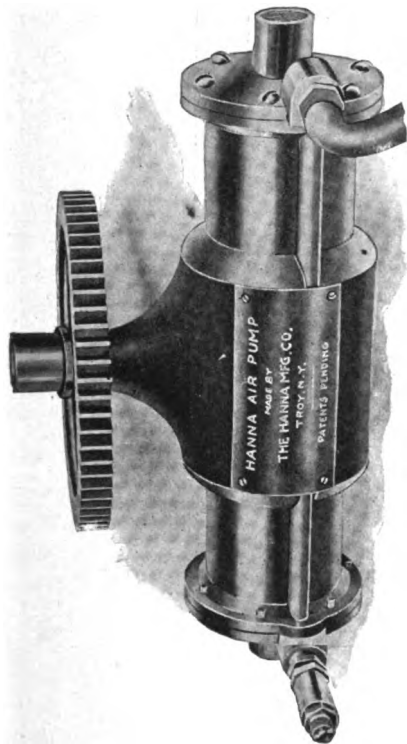
The "Eberman" pump, sold by Harry H. Reynolds, Monadnock Block, Chicago, Ill., is constructed along the lines of an air-cooled gas engine, and it works in connection with the automobile fly-wheel. The price of this pump complete with attachments and twelve-

This pump is only 9½ inches over all with a width of 5 inches, and it has a cylinder displacement of 1 9-16x1¾ inches. The friction wheel is 5 inches in diameter, with a one-inch face.

There are various forms of air bottles in use, one of the most popular being the "Lennox" outfit, marketed by the Cleveland Faucet Co., of Cleveland, Ohio. This concern's pro-



THE CRANK-OPERATED "HAWTHORNE"



THE TWO-CYLINDER HANNA

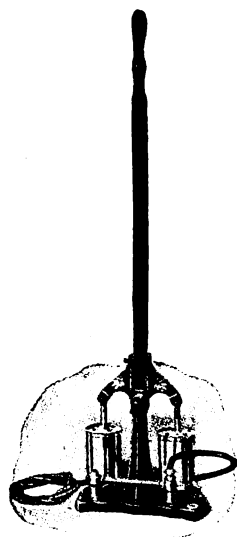
foot of five-ply air hose, is \$20. It is designed to be bolted to the car frame adjacent to the fly-wheel so that the friction wheel can be forced against the outer surface of the engine fly-wheel by means of a spring push rod.

duct sells at prices ranging from \$8 for a small outfit to be used on small cars, to \$48 for a large combination designed for garage use. This device consists of a cylinder of dry carbonic gas, small enough to be readily carried under the seat of the car, including tubing. To inflate a tire it is simply necessary to connect the tubing with the tire valve, and then turn on the valve in the gas tank. Where it is desired to have the tank fastened to the running board instead of carrying it under the seat, clamps are furnished for the purpose.

An engine-driven pump of somewhat novel construction, is the "E-Z," made by C. M. Wheaton & Co., of Sunbury, Ohio. This device, although operated by the engine, is attached to one of the rear wheels, being very similar in design to the ordinary hand pump. In fact, where it is desired it can be used as a hand pump. The piston, or handle end of the pump, is attached between two of the spokes, and the other end is secured to the bottom of the running board. When it is desired to inflate a tire the apparatus is made fast to the wheel and running board, and then the wheel is jacked up. The engine is then started, with the clutch thrown in at slow speed, and power is thus transmitted by the revolving wheel to the pump. The "E-Z" sells for \$10.

The Artizan Brass Company, of Chicago, make the "ABC" pump, an apparatus of the engine-driven type. This pump, which is il-

lustrated herewith, can be attached to the main engine shaft, the magneto shaft or the cam shaft by means of a gear or sprocket equipment. The pump shaft is 9-16 of an inch in diameter, and projects $1\frac{3}{4}$ inches, with key-seat and key for sliding gear, so that the pump can be disconnected when not in use. The price of this pump, including hose, is \$20.



TURNER'S TWO-CYLINDER FLOOR PUMP

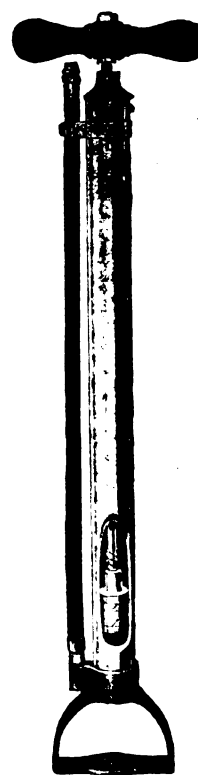
Charles W. Manzel, of New York, makes the automatic Duplex air pump, which is designed in a most compact form. It is a two-cylinder apparatus, and like the majority of engine-driven pumps it can be attached to any of the working shafts. It can be operated by simply throwing a sliding gear or clutch in or out of engagement, and by attaching the hose to the pump and tire.

This pump is $7\frac{1}{2}$ inches high.

The O. B. Auto-Power Pump, marketed by O. Fenstermacher, of Indianapolis, Ind., is operated by attaching it to the hub of one of the rear wheels, the wheel being jacked up and the engine set in motion. Fitted to this pump is a leather faced clutch which takes hold of the hub securely, so that it cannot slip off. This revolving clutch is mounted upon a disc which drives the pump operating piston rod. The O. B. device sells for \$15.

A very quick acting pump of the friction type is the "Tryon," made by the Tryon Auto Pump Co., of New York. This concern claims their product will inflate any tire in about one minute. It weighs but nine pounds

and only occupies a space 8x6x4 inches. It is designed for attachment to the frame of the car, adjacent to the fly-wheel of the motor, so that its friction wheel can be instantly forced against the fly-wheel by means of a special locking device. This locking equipment can be tilted to reach an angle of 45 degrees if necessary to accommodate various size fly-wheels, and its position is at once made rigid by means of a thumb screw, by which the adjustment is made. A direct thrust of the piston forces the charge of air through the outlet at the base of the cylinder, through the hose to the tire. At the base of the cylinder, adjacent to the air outlet, is placed a special gauge and exhaust valve. When the tire has



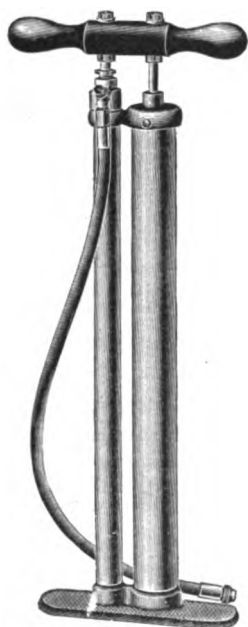
THE KEYSTONE "MYERS' AERTITE"

been inflated to the pressure desired the exhaust valve opens automatically, and the surplus air as it escapes through the valve emits a shrill warning signal. The price of the Tryon," complete, ready for equipment is \$25.

The Hanna Manufacturing Co., of Troy, N. Y., manufacture a two-cylinder gear driven

power pump, varying in price from \$20 to \$40, the difference being in size only. The method employed in driving this pump is by direct gearing, the driving gears being very readily disconnected when the pump is not in use. The pump is very sturdily constructed and it can be fitted to any car without difficulty.

Another pump of the gear-driven type is the "Delpeuch," handled by the Nightingale Whistle Manufacturing Co., of New York. This concern's inflator is of foreign construction, having been introduced in this country some two or three years ago. It sells complete with all attachments, for \$35. The "Del-



"IDEAL," MADE BY THE NOERA CO.

posed to be attached to the car frame, occupying a space of 11x5 inches.

A pump that is claimed to be absolutely automatic in every respect is the "Ten Eyck," made by the Auburn Auto Pump Co., of New York. This pump is of the friction type, and is quite unique in that it is self starting, self contacting and self stopping. If a tire is to be inflated, the hose is connected with the tire, the tire valve is unseated and the back tire pressure enters the contact cylinder forcing its piston against a specially designed supporting arm. This pressure causes the pump body with the friction wheel to swing outward into contact with the fly-wheel and automatically "Delpeuch" weighs about 14 pounds, and is sup-

cally starts the pump. Detaching the hose from the tire allows the pressure to escape from the contact cylinder and the friction wheel to swing freely out of contact. If the tire is entirely deflated, so that no back tire pressure can be obtained, a slight pull on the hand lever will put the pump into action. The price of this pump is \$35.

A most novel form of hand operated pump is the "Hawthorne," made by the Hawthorne Manufacturing Co., of Bridgeport, Conn. This pump is a four cylinder apparatus, turned with a crank, and when in use it is clamped to the running board of the car. It has a rotary movement and being geared it can be operated with ease, even after high pressures have been placed in the tire. The price of this pump, equipped with a pressure gauge, is \$12.

Among the leading concerns manufacturing hand pumps, are The Turner Brass Works, Sycamore, Ill.; The Noera Manufacturing Co., Waterbury, Conn.; Keystone Novelty Co., Columbia, Pa., and the Imperial Brass Manufacturing Co., of Chicago. The first mentioned concern's product is a two-cylinder floor pump, having a detachable handle, 42 inches high. Each of the cylinders is $3\frac{1}{2}$ inches in diameter, and with the long handle the pump is very easily operated. The price of the Turner, equipped with tire pressure gauge, is \$19. The Keystone people make what they term "Myers' Aertite" pump, and they claim extra strong construction for their product. The price of each pump is \$10.

The pump of the Imperial Co., shown in the accompanying illustration, is a double cylinder, double action, compound air pump of very great power. This pump is quite a favorite because of its quick acting features, it being possible to inflate a tire in a short space of time with a comparatively few strokes. On the upstroke the air from the outer cylinder is forced into the inner cylinder, and this makes the first compression about 30 pounds. On the downstroke this 30-pound pressure is compounded to a very high pressure. The Imperial sells for \$8.50, equipped with pressure gauge. The Noera Co. recently brought out a new pump, known as the "Ideal." This is a compound pump of very strong construction. An illustration of the "Ideal" is shown. It is made of seamless tubing, polished and lacquered and fitted with a 22-inch five-ply rubber tube connection.

Automobile Topics

Illustrated

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Published by AUTOMOBILE TOPICS (Incorp.)

S. WALLIS MERRIHEW, President and Editor.

THEO. DRAZ, Vice-Pres. and Treas.

W. A. SMITH, Business Manager.

W. E. BALDWIN, Secretary.

Vol. XXII. No. 8.

NEW YORK, MAY 27, 1911

Price, Ten Cents.

AUTOMOBILE TOPICS is published weekly by Automobile Topics (Incorp.), Terminal Building, 103 Park Avenue (Cor. 41st Street), New York. Subscription price, \$2.00 a year in the United States, and \$4.00 (gold) in advance in Canada or in foreign countries within the Postal Union. Advertising rates may be had on application.

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Cable Address---Autotopics, New York.

Telephones { 5524 } Murray Hill.
 { 5525 }

Improvements---Epoch-Making and Otherwise

Epoch-making improvements have a way of coming unheralded; or, if heralded, their appearance has been announced so often that little attention is paid to the matter. To-day there is scant indication of any radical change in present-day car design, and this, notwithstanding certain more or less subterranean rumblings that are discernible to those observers who have their ears close to the ground.

In a recent conversation with the head of a large concern making complete cars, the opinion was expressed that whatever the *future* might have in store there was no likelihood of any thing revolutionary becoming an accomplished fact in 1912. He referred especially to the rotary type of engine, regarding it as still afar off.

There is little doubt that the gentleman referred to voiced the prevailing opinion of the day. Of course, men who are working on rev-

olutionary designs view the matter differently as well as more hopefully. They believe that changes are impending, and are nearer at hand than is admitted by others. But they are prejudiced or biased, and, therefore, are not able to judge impartially, or to form an accurate judgment. Changes must come slowly hereafter, and only after exhaustive experimentation has demonstrated the new features to be reliable and workable in practice as well as superior in theory.

Yet it is undeniable that to-day the three classes most interested in the motor vehicle—makers, dealers and users—are on the *qui vive* for the changes that everyone knows will come sooner or later. We are pretty safe in assuming that the fundamentals of motor vehicle for the changes that everyone knows will come years—failing, that is, the coming of some daring and successful innovator. So we may

dismiss that phase of the matter. But it is equally clear that improvement is possible in many important features of the cars of the day. It is interesting, therefore, to enumerate indicated improvements, which, for the sake of convenience, may be divided into two classes—major and minor. Of the former we may mention:

Motor.

Transmission.

Ignition.

The improvement of the motor has gone on apace during the past two or three years, and, thanks to longer strokes, larger valves and simpler and better construction, the power and efficiency, as well as the reliability and dependability of the modern engine has been greatly increased. Whether all that is possible to be accomplished in this direction has been done it is too early to say; just as it would be premature to pronounce judgment, for or against, on the principle of the Knight engine. Beyond this, and beyond everything else, is the rotary engine, which is still a dream.

Transmissions have from the very beginning of the practical motor vehicle afforded ample scope for the inventive faculty of the average engineer and designer. Up to now the sliding gear, in conjunction with the cardan shaft and beveled gear drive, rules almost supreme. This success has been won by reason of general superiority, yet in spite of certain disadvantages and drawbacks which are apparent to everyone. The skill required to change gears with the sliding type comes to most drivers after awhile, and, therefore, this can scarcely be termed a drawback. But present-day practice is directed to the one object of obtaining a noiseless and sweetly-running gear on high speed. Whenever it becomes necessary—as in starting, in taking long or steep hills, when driving in heavy traffic, or when sharp turns are unexpectedly encountered—to change, the gear mechanism becomes noisy and annoying almost beyond endurance; if the low gear is used for any length of time the engine will heat and there will be trouble generally.

It may be said in answer to this that in most good cars the high gear is used nine-tenths

(or even ninety-nine one-hundredths) of the time, and that the rare occasions when one must go into low are scarcely worth considering. This is merely an argument, however, and the time will come when gears will be noiseless and smooth working, whether the high, the low, or the intermediate shall be in mesh.

Two or three years ago it could have been said of ignition devices that little was known and that there was much to learn. To-day matters are just reversed; much is known and there is comparatively little to learn. We do not mean to contend that perfection, or even approximate perfection, has been reached. Far from it. The designer who is not able to improve his ignition apparatus is a very poor stick indeed. But it is true that the magneto has become as reliable as the engine, and that it is just as unthinkable to go back to battery ignition as it would have been a few years ago to return to the hot tube.

Of the minor improvements possible on the cars of the day we may mention:

Tires.

Lights.

Pumps.

Self-starters.

As to the first of these, tires, it is notorious that we need greater freedom from punctures and blowouts, and greater mileage. These will come when tire users are better educated and the product has been further improved.

The future is full of promise as to the other minor improvements. Electric headlights are in sight to dispute the field with those lighted by acetylene; hand pumps will become more efficient or be displaced by power-driven ones. Self-starters have obtained a foothold, and they are certain to increase and multiply rapidly once their usefulness and reliability is better understood.

Every motorist knows that great as has been the improvement in cars during the past few years, there is still plenty of scope for the ingenuity of designers who seek to give the user a vehicle that will be entirely free from shortcomings and deficiencies, and at the same time relieve him of manual labor by the adoption of automatic devices for all purposes.

PREVENTIVES AND REMEDIES

The best safeguard against side-slipping is to travel slowly at a steady, uniform pace. A sudden, violent application of the brakes, a sharp turn of the steering wheel or a sudden acceleration of pace may set up slipping. The driver should, therefore, try to run his engine at an absolutely uniform speed, and should avoid traveling at a pace which would necessitate a strong application of the brakes should an obstruction suddenly block the road. In fact, when the grease is really bad, he should regulate his speed so that the manipulation of the throttle lever will slow the car sufficiently to provide for the ordinary exigencies of traffic.

The acetylene lamps on a car should not be neglected. Wires should be passed through the gas, and air apertures at intervals in order to keep them clear. The burners should be unscrewed occasionally and blown through, and the interior of the burner body should be scraped clean of deposit. The lenses should be kept brightly polished.

If it is found necessary to take down the gearbox it would be as well to see that the clutch leather is in good condition, and if it shows signs of burning or is worn thin this opportunity of replacing the leather should be taken. With a little care in removing the rivets and taking off the old leather, it can be kept intact, and will be useful to mark out the new one, which should be cut from the thick part of the hide, and will not cost much. Be careful to countersink the holes for rivet heads, so that they sink well below the surface of the leather, and put it on rough side out. It will be better trued up in the lathe, but if carefully and truly fitted it may do without, and if soaked in castor oil will very soon accommodate itself to the female portion.

After installing a new carbureter on an engine that caused trouble by pounds and knocks the driver often discovers that the knocks instead of being eliminated are worse than before. The new carbureter probably gives more gas and power than the old one, and, of course, when combustion chambers and piston heads are carbonized from poor oil or bad

mixture, the more gas admitted to the cylinder the worse the knock. Take off the cylinder heads and soak them over night in kerosene, clean them thoroughly, and piston heads too, and don't neglect the valve passages. It is not so much the even deposit as the little lumps that stick up that cause the trouble.

A summary of the various causes through which most of the break-downs occur is as follows: Soot or grease on the spark plug; points of the spark plug too far apart; contacts badly corroded; broken wires; loose battery terminals; leaky valves; seized piston, or breaking; broken valve stem, or valve spring; batteries exhausted; defective packing.

Some owners in cleaning chains use a mixture of graphite with tallow, but graphite sinks to the bottom of the melted tallow, and, therefore, does not always do the duty that it is expected of it. In order to prevent as much as possible, when the chain is removed from the tallow it should be hung up and all superfluous grease allowed to drain from it into the tin placed beneath. There will remain, of course, a thin film of grease over the surface of the chain, but no more than is sufficient to protect it in wet weather, though even this film of grease will collect dust.

An easy way to clean a sooty ignition plug on a motor with more than one cylinder without going to the bother of removing it from the cylinder is to detach the high-tension wire from the misbehaving plug, open the compression cock of its cylinder, and run the engine on the other cylinders. Then hold the terminal of the detached wire, being very careful not to touch the metal part with the fingers, a very short distance off the end of the plug, so that the spark jumps to the latter. The wire should be held by the insulated part at least two inches from the bared terminal. At first the cylinder will be heard to be missing, but very quickly the reverse will be the case, and the dirty plug will be found to have cleaned itself, as to all intents and purposes a spark gap is established. Then switch off, shut your compression cock, attach your wire again, and start up.

INDUSTRIAL AND TRADE NEWS

Board of Trade Admits Members

The organization of the Board of Trade, the successor of the Association of Licensed Automobile Manufacturers, was practically completed last week when the board of directors met and fifty charter members were admitted, and officers for the ensuing year elected. The latter are headed by Col. Charles Clifton, of the Pierce-Arrow Motor Company, who was also the head of the Board of Trade's predecessor.

Some comment was caused by the fact that only 50 members were elected, whereas the membership of the A. L. A. M. was between 80 and 90. All sorts of rumors were instantly set afloat, some being to the effect that a number of the members of the old body were to be shut out of the new one. The explanation is a very simple one, however, viz., there were two classes in the A. L. A. M.—full fledged members and licensees. The latter, or at least the majority of them, will be taken into the B. of T. and given a similar standing; but, of course, they will not be made charter members.

The following official statement concerning the meeting of the directors was given out this week.

"A meeting of the directors of the Automobile Board of Trade, which was recently incorporated and which will comprise the members of the Association of Licensed Automobile Manufacturers and other prominent makers of automobiles, was held yesterday at 7 East 42d Street, New York City, at which many of the preliminary details of the organization were completed.

"Col. Charles Clifton was elected president; Charles C. Hanch, vice-president; Col. George Pope, treasurer, and Benjamin Briscoe, secretary. H. A. Bonnell, who was appointed acting manager of the A. L. A. M., upon the resignation of Alfred Reeves, will be the acting manager of the new organization.

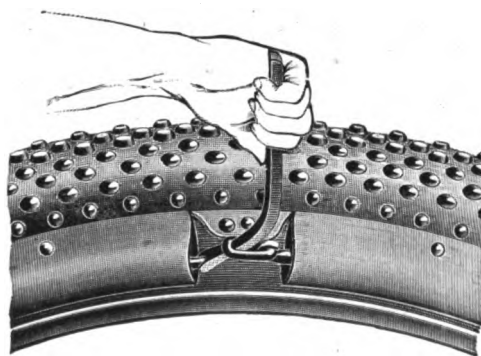
The following were elected as charter members:

American Locomotive Co., American Motor Car Co., Apperson Bros. Motor Co., Bartholomew Co., Brush Runabout Co., Buckeye Manufacturing Co., Buick Motor Company, Cadillac

Columbia Motor Car Co., Corbin Motor Vehicle Co., Dayton Motor Car Co., Elmore Manufacturing Co., Everitt-Metzger-Flanders Co., H. H. Franklin Mfg. Co., Haynes Automobile Co., Hrdson Motor Car Co., Jackson Automobile Co., Knox Automobile Co., Locomobile Co. of America, Lozier Motor Co., Matheson Motor Co., Maxwell-Briscoe Motor Co., Mercer Automobile Co., Metzger Motor Car Co., Mitchell-Lewis Motor Co., Moline Automobile Co., Moon Motor Car Co., National Motor Vehicle Co., Nordyke & Marmon Co., Oakland Motor Car Co., Olds Motor Works, Packard Motor Car Co., Peerless Motor Car Co., Pierce-Arrow Motor Car Co., Pope Manufacturing Co., Premier Motor Mfg. Co., Pullman Motor Car Co., Reo Motor Car Co., Royal Tourist Car Co., Alden Sampson Mfg. Co., Selden Motor Vehicle Co., F. B. Stearns Co., Stevens-Duryea Co., Studebaker Auto Co., E. R. Thomas Motor Car Co., Waltham Mfg. Co., Willys-Overland Co., Winton Motor Carriage Co.

New Fastening on Woodworth Treads

A new adjustment making it possible to apply and remove Woodworth treads very quickly has just been perfected by the Leather Tire Goods Co., of Niagara Falls, N. Y., manufacturers of this tire-saving equipment, the new method being shown in the illustration.



The Woodworth tread is held on the tire by rings on each side composed of coil springs. The coil springs are claimed to keep an even tension on the covers at all times, preventing any possibility of looseness which might cause heating or chafing of the tire. There are from 6 to 8 of these springs on each side of the tread. In each end of the springs there is screwed a strong hook and these hooks are connected by hooking into a steel link fastened mid-way between the springs. With the spe-

cial tool it is possible to draw up and fasten the hooks in one motion so that the work is very quickly and easily done.

When the treads are shipped a tool is tied to each one and an instruction tag telling how to apply it. The springs are all disconnected so that the treads are easily slipped sidewise over the deflated tire. The springs are then connected by drawing up and hooking with the tool after which the tire is inflated and ready for use.

Tangeman Buys out S. G. V. Company

Automobile Row was greatly surprised to learn on May 20 that C. H. Tangeman and several others had purchased the S. G. V. manufacturers' plant and had organized the S. G. V. Company to build and sell that make of car. This deal was sensational because of the fact that the S. G. V. is a copy of the Lancia car, imported by the Hol-Tan Company, of which Mr. Tangeman is the head. Mr. Tangeman declared that he intended to continue to import the Lancia and handle the S. G. V. separately. The S. G. V. factory is at Reading, Pa., and improvements will be made to facilitate the turning out of more cars. S. G. V. agencies have been placed in Boston, San Francisco, Chicago and Baltimore.

Denies Connection With Concern

From Clement Talbot, Limited, London, the following notice has been received, relative to a Washington concern which formerly represented them in this country:

"Messrs. Clement Talbot, Ltd., of London, England, state that they are in no way associated with the company trading as the Clement Talbot Auto Import, whose address is P. O. Box 148, Washington, D. C. Neither is the latter entitled to make use of their name, or advertise themselves as representatives of the Clement Talbot Co., of London, England. Further, Messrs. Clement Talbot wish me to say that they are open to appoint agents in the States for the Talbot cars.

Increase in Packard Sales

Sales of Packard cars for the first six weeks of the 1912 season show a total of seven hundred and thirty-five as against five hundred and eighty-four for the corresponding period last year. The proportion of sizes is sixty-six

per cent. "Thirties"; twenty-three and four-tenths per cent. "Sixes," and ten and six-tenths per cent. "Eighteens."

Orders for four cylinder cars this year are practically equal to the number received last year at this time, so that the specifications for "Sixes" represent the increase in business.

A night force is now being put on in the Packard shops, which have normal day working force in excess of five thousand men.

New Building for Overland Engineers

As the result of the demand made upon its engineering department, the Willys-Overland Company, of Toledo, Ohio, have found it necessary to construct a new building to house this end of the business. The new building is to be of concrete construction, three stories high, and it is expected to be finished about the first of July.

It will have a most admirably equipped blue print room, as well as designing, experimental and model rooms. There will also be a laboratory where physical and chemical analysis are made of all crude materials and foundry products that enter into the construction of Overland cars. The offices of the chief engineer and designer and his corps of assistants will have every modern convenience available.

Martin Firestone Special Representative

Frank H. Martin, for several years manager of the Chicago branch of the Firestone Tire & Rubber Company, Akron, O., has been made special representative with headquarters at the factory. A. W. Moore, formerly a city salesman of the Chicago branch, has been appointed manager to succeed Mr. Martin.

New Rayfield Carburetor Branch

The Findeisen & Kropf Manufacturing Company, of Chicago, makers of the Rayfield carburetor, have established a Detroit branch at 997 Woodward Avenue.

ADVERTISING is *Progress*. That's why Stick-in-The-Rut, Shuffle-Along and the other members of the Let-Well-Enough-Along Club "pish!" and "pshaw!" when Advertising is mentioned.

The Tire Fool There Was

Said a customer: "I read the advertisement giving your opinion of the fool who buys 'seconds,' and I want to add my experience in this line.

"I purchased two casings from _____, of New York City, which were guaranteed to be new stock, and claimed they would give the same mileage as any first quality casings. They came and looked all right. I put these casings on, ran them to my office and back, a distance of less than one mile, and they both split from a half to two-thirds around on what appeared to be a center seam, also separated from the canvas, and the rubber was so rotten that it broke before it would stretch.

"I wrote the company about it, and they wrote me to return them. I took them off at once and did return by express, and notwithstanding they received them just three days later, for about two months they denied it, and before they would admit the same, I had to prove it through the express company. Now for about five months they have my money and also the casings.

"With another company I deposited 10 per cent. as per one method used. The tires came and one was so 'flimsy' that it would bend partly together when stood up. I returned them, but they won't refund the 10 per cent. as they agreed. Several of my friends have had like experiences."

Which all goes to show if you buy a tire in the Diamond Class, you are sure to be right. We have your size in stock—about a car-load altogether.

STATES FIRE-PROOF GARAGE
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Tires Merely

OR

Greatest Tire Mileage?

The accompanying advertisement, clipped from a New Jersey paper, tells its own story.

The Diamond Rubber Company
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CLEVELAND
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**THE COAST LINE
TO
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**TOLEDO
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GODERICH
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ST. IGNACE**

THE LUXURY OF A LAKE TRIP

Where will you spend your summer vacation? Why not enjoy the charms of our Inland Seas, the most pleasant and economical outing in America?

WHERE YOU CAN GO

Daily service is operated between Detroit and Cleveland, Detroit and Buffalo; four trips weekly between Toledo, Detroit, Mackinac Island and way ports; three trips weekly between Toledo, Cleveland and Put-in-Bay.

A Cleveland to Mackinac special steamer will be operated two trips weekly from June 15th to September 10th, stopping only at Detroit every trip and Goderich, Ont., every other trip. Railroad Tickets Available on Steamers.

Special Day Trips Between Detroit and Cleveland, During July and August

Send 2 cent stamp for Illustrated Pamphlet and Great Lakes Map.

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Philip H. McMillan, Pres. A. A. Schantz, Gen'l Mgr.
Detroit & Cleveland Navigation Company

Loose Sheets of This and Previous Sections May be Obtained by Remitting 10c. for Each

Philadelphia to New York, via Princeton

The most traveled routes from Philadelphia and New York are given this week, supplementing the tour in the opposite direction previously published. The details:

From the north side of City Hall start up N. Broad St. Bear right and straight ahead on N. Broad St. into Old York Road. To fork at Ogontz. Bear left and turn right from Old York Road into the Meeting House Road. Turn right into Jenkintown Road. At fork turn left and left at 4-corners. Over R. R. tracks at Fox Chase station into Rhawn St., crossing bridge over R. R. At 4-corners turn left into **Bustleton** (16.2 miles).

Turn right at fork in center of village and at fork before R. R. bridge take right-hand road and through 4-corners. At La Trappe bear right at 4-corners and through covered bridge. Turn left over R. R. bridge at Janney station and into **Langhorne** (25.6 miles).

Direct through town and then through Oxford Valley. At 4-corners turn left and again turn left at R. R. bridge, taking right fork at the other end of bridge, but avoiding right-hand road. Straight into Calhoun St., **Trenton** (34.5 miles).

Turn right on West State St. to Broad St., where turn left and straight ahead to Soldiers' Monument, where turn right into Brunswick Ave. Take left road at fork at small park and then continue into **Princeton** (45.5 miles).

Direct to the end of the road at old mill, where turn left and then to irregular corners, just before Rocky Hill. Turn left to the end of the road, where turn right to first cross-roads, where again turn left. Turn right through irregular corners and across bridge. At fork keep left, and at branch road turn right and next left. Into the village of Harlingen. Right at fork and at irregular corners turn left, then right to **Belle Mead** (56.5 miles).

At end of road turn right and immediately left through cross-roads to end of road again. Turn right and a half mile beyond turn left. Cross R. R. at South Somerville station and ahead to **Somerville** (64.3 miles).

Continue on Main St. and turn left on N. Gaston Ave. Turn right into W. Union Ave.; straight ahead across R. R. and through cross-roads. Bound Brook a short distance to the right. Straight ahead and turn with trolley into **Plainfield** (75.8 miles).

Continue direct ahead to Scotch Plains and then to 4-corners, where turn right. Left at fork and left again at second fork. From Westfield road turn right into Morris turnpike. Direct to Springfield. Through Union to **Elizabeth** (91 miles).

Turn left on N. Broad St. and at fork keep right. At fork keep left on N. Broad St. Where trolleys leave run straight ahead over R. R. at W. Elizabeth station. Turn right into Elizabeth Ave., Newark, and follow trolleys to end of avenue, where turn right into Clinton Ave. Turn left on Wash-

ington St., and then turn right into Market St. and immediately left on Washington St., **Newark** (95.8 miles).

Straight ahead on Washington St. to end of same. Turn right across Broad St. into Bridge St., crossing iron bridge and under R. R. Through Harrison and into the turnpike. Cross Hackensack River bridge to intersection of the Hudson County Boulevard, where turn right. Follow boulevard to Glenwood Ave, where turn left and jog left and immediately right across Bergen Ave. into Mercer St. At end of same turn right and next left to ferry.

Jersey City (105.3 miles).

Twenty-third St. to Eight Ave., where turn left and to Fifty-ninth Street and **Columbus Circle** (108.3 miles).

Trenton to Elizabeth

From Broad and E. and W. State Sts., start nearly east on State St., crossing canal and bridge over R. R. to 4-corners, where turn right in front of school. Direct on main road to fork, where turn left. Over bridge to 4-corners at hamlet of Edinburg, where turn right. To village of Windsor. Turn left, cross R. R. and continue through Hightstown to **Dayton** (21.8 miles).

Through village, cross trolley tracks and several miles beyond, meeting trolleys, follow same for less than a mile only, running straight ahead over R. R. as trolleys curve left. Bear left with main road to 4-corners, where turn right into Commercial Ave. **New Brunswick** (32.1 miles).

East on Albany St. across Raritan River bridge. Straight ahead, turn left over R. R. bridge and immediately right to **Metuchen** (37.5 miles).

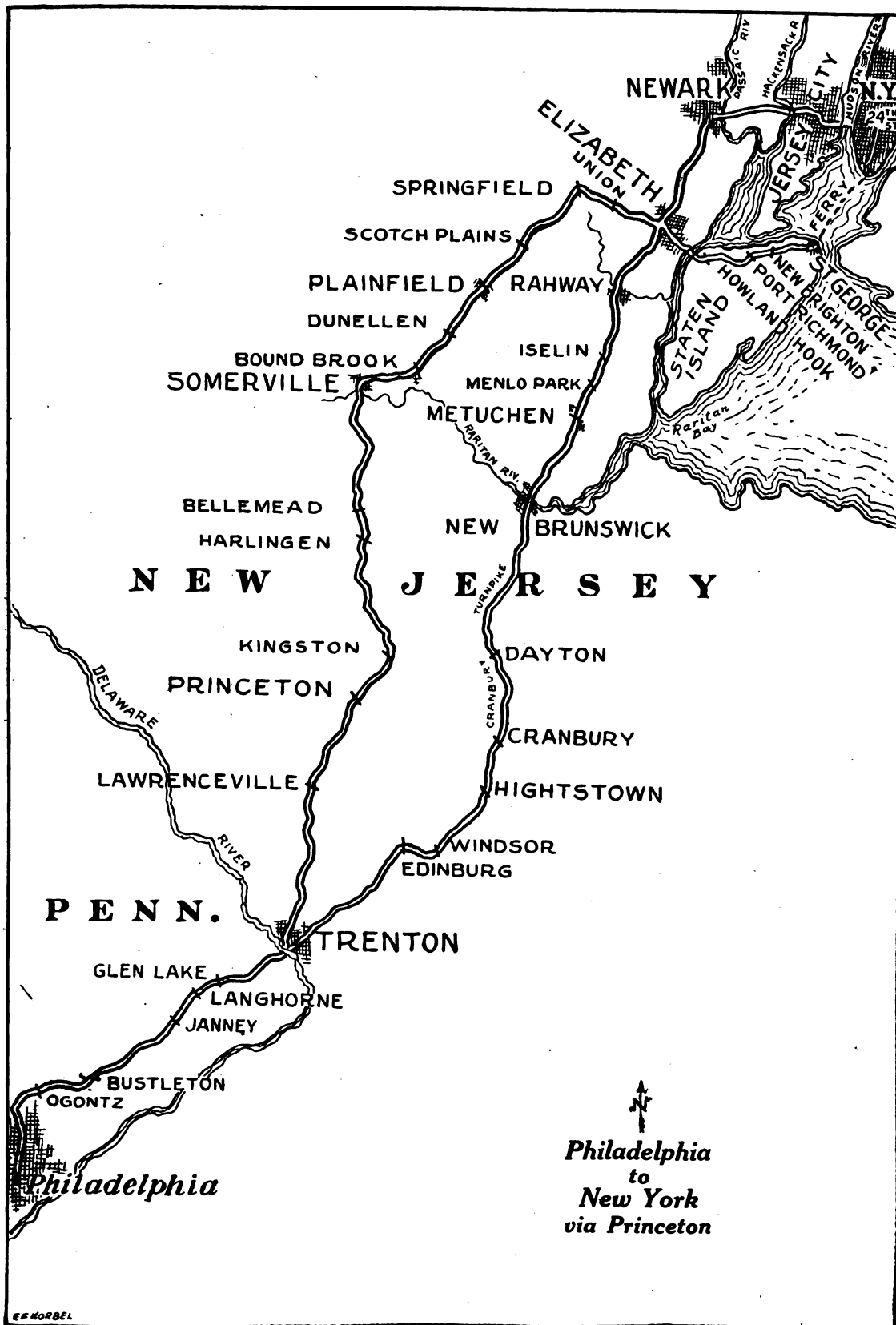
Cross trolley and straight ahead over R. R. bridge. Turn right under R. R. Turn left on road under R. R., past Menlo Park station. Turn left across R. R. at Iselin station; turn right, curving sharp right. Turn left and bear right to end of road, where turn left into St. Georges Ave., passing right-hand road. Continue into **Elizabeth** (50.5 miles).

Elizabeth to New York, via Staten Island

From Morris and Westfield Aves., under R. R. arches into S. Broad St. to 4-corners, where turn left into E. Jersey St., to Division St., where turn right to 5-corners. Turn left into Franklin St., to First St. Turn left two blocks and then right on E. Jersey St. again to foot of same at ferry in **Elizabethport** (2.4 miles).

Cross Arthur Kill to Howland Hook, Staten Island, and over long wood bridge. Turn right under R. R., crossing bridge to end of road. Bear left on Washington Ave. Curve left and right and through 4-corners to end of road at Graniteville. Turn left and then right, with left curve to **Port Richmond** (7.5 miles).

Turn right with trolleys, which follow over R. R. and through West New Brighton. Follow trolley past Sailors' Snug Harbor. Direct to Borough Hall, where turn left downhill to ferry. Leaving ferry, continue on Whitehall St. and into Broadway and direct to **Columbus Circle** (16.6 miles).



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CONTENTS

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COMMERCIAL MOTOR VEHICLES

Facts and Figures for Students

Much interesting information regarding the use and abuse of motor trucks and their superiority to horse-drawn vehicles, and other phases of the subject were given to the students who attended the opening of the new term of the Automobile School of the West Side Y. M. C. A., New York, last week. The speaker was Charles E. Stone, of the Commercial Vehicle Department of the United States Motor Company. He said:

"Up to a few years ago, the statement that within a limited time the greater part of the country's merchandise hauling would be done by motor power, not by horses, was regarded in the light of a pathetic utterance. Since then those pioneer business men who, ever alert for improvement in service and greater economy in upkeep, adopted power transportation, have taught the business community valuable lessons, until even the late skeptic no longer closes his eyes to the certainty that power transportation is the next logical step.

"Horses represent a method of transportation so old that it was in vogue before the Christian era, and it is well that inventive genius has found a means of supplanting him. The demands of health, business and humanity, are driving us to adopt other methods of transportation, more suitable to the requirements of the twentieth century than that of the Pharaohs. The congestion of our city giving us all a great deal to think over—and streets, particularly in the business section, is the conditions on or near piers and ferries are even worse."

A stereopticon picture of a motor truck on West Street was shown and Mr. Stone continued:

"The view of West Street you now see represents the condition existing all hours of the day. In the center may be seen an electric truck of three and one-half tons capacity, capable of carrying its full load at a rate of nine miles per hour yet unable to do so on account of the slow-going horses by which it is surrounded.

"In the right fore-ground is an empty single team occupying more room than the other and of a load capacity of only one-third the motor vehicle and with a correspondingly slower

speed. You will also notice that to allow this wagon to draw up to the curb, the horse has to be swung to the left to avoid the vehicle ahead with the result of interfering with passing traffic.

"In New York over 140,000 horses are used in daily trucking. Were this army of quadrupeds harnessed tandem fashion to a vehicle the first animal would be entering the city of Worcester, Mass., or Scranton, Pa., before the wheels of the vehicle to which they were harnessed started to turn out of New York City.

"Probably the majority of these horses could be entirely dispensed with by a substitution of the motor vehicle, thereby adding nearly three hundred miles of streets to our city. What such an elimination of the horse and its co-partner, the fly, would mean to the health of the community is almost beyond record.

"A horse delivery wagon on the streets has an overall length of about 18 feet and occupies 90 square feet of area. To stable this outfit requires about 114 square feet of area. On the other hand the motor wagon of like carrying capacity will average an overall length of about 10 feet or 60 square feet of area whether on the street or in the stable, a saving of practically one-third on the street and nearly 100 per cent. in the stable, where the high rental value has to be considered.

"A three-ton horse truck requires about 22 feet overall on the street or 132 square feet of surface and in the stable this will occupy about 204 square feet, but as many concerns own a spare horse for every such rig this storage space is increased thereby 54 square feet or a total of 258 square feet. A motor truck of the same capacity would require only 126 square feet.

"The five-ton horse truck will require about 25 feet overall on the street or 200 square feet of surface, and the stable space for this equipment would represent 281 square feet. A motor of equal capacity would require only 176 square feet.

"While these figures show a very decided saving for the motor as against the horse, we must consider the fact that with increased speed the motor vehicle is capable of more miles per day travel and as conservative esti-

mates show that it is doing $2\frac{1}{2}$ times that of the horse, as far as work is concerned, there would be a saving of street space of no less than 73 per cent., so that it will be seen that the same amount of work could be done with only about one-quarter of the street congestion, or that four times the present volume of traffic could be accommodated before relief measures would be needed.

"Another great economy effected through the use of self-propelled trucks, particularly in larger installations, comes through the great reduction in the necessary number of employees to look after and maintain the vehicles in running condition.

"The past two years or more has seen an ever-increasing demand for free suburban delivery, and it is necessary to send goods as far as thirty and forty miles out into the country, making the use of motor trucks absolutely indispensable for the purpose.

"During the winter months through the presence of snow and ice upon the city pavements, horse traffic is more often than otherwise at a complete standstill, owing to the inability of the animal to secure the necessary traction to pull its load, and while the self-propelled truck is also placed at a slight disadvantage, it is a rare sight indeed to ever see one completely stalled, but on the other hand, often not only carrying its own load but towing a horse vehicle in its wake.

"In summer the great heat likewise effects the animal and renders it incapable of properly meeting the requirements of the service it is called upon to perform.

"There is in addition to all this a certain amount of up-to-dateness connected with the use of motor-driven vehicles for delivery purposes and many instances have come to my attention where customers of old established firms have changed their accounts to others, solely because the other firm used the modern method of delivery which they preferred to see draw up in front of their door.

"The health departments of the various cities are rapidly recognizing the menace to the health of the communities by the presence of stables and are inclined to segregate these, placing the merchant at a disadvantage where his stable property has to be removed to some distance from the shipping room; there can be no such objection to the presence of either gasoline or electric trucks, and in very many

instances the elimination of the fly-breeding horse permits of the same property being used for warehouse or storage purposes with slight renovation and at the same time house the motor machine.

"The commercial motor vehicle with proper supervision, care and inspection is capable of almost constant profitable employment, whereas the horse cannot safely be used in continuous service for more than four or five hours per day."

Just to illustrate what can be done in the way of variety in motor truck manufacture Mr. Stone had thrown on the screen a picture of a very light truck used in the Bronx Zoological Park. Of this truck he said:

"Here is shown a light machine in quite different service from anything illustrated before. This little car is used to carry all of the supplies to the Bronx Zoological Park as well as distribute them among the different buildings and cages. An important item for consideration in installing this vehicle was the excessively slow speeds necessary in the distribution work, owing to the fact that the car is travelling for a major part of the time over the paths occupied by the children and other visitors. It was also necessary that the machine be made as silent as possible, for during the summer months the Society allows a number of camels, donkeys and elephants to carry the little ones around certain portions of the grounds and anything but a very silent motor would have a tendency to frighten and probably result in serious injury.

"The young man who has charge of this machine is also a graduate of the West Side Y. M. C. A. Automobile School and has never had to call upon me for assistance or even advice, a fact that speaks well for the thorough manner in which the pupils are instructed.

"A good motor truck in the hands of a knowing and careful driver is almost certain to mean economy to its owner, but the same machine with a poor or green man in charge and a shipping clerk to whom the rated carrying capacity of the truck means nothing is too expensive for anyone to own."

Speaking of the abuse of motor trucks Mr. Stone said:

"Two years ago I had occasion to look at a large concern in this city who had a great deal to say against the general use of motor

trucks and had done much to discourage others from purchasing. While the concern in question kept no very accurate cost accounts, they had enough, as they said, to tell if the machine was an economic method of delivery. In the investigation, one of the first items of expense encountered was a charge of \$175 each month, cost of current for charging the battery of one five-ton truck. No one could explain how such a figure was arrived at and no itemized entries on the books were found to correspond to it. The items of repair and replacements footed up to about \$150 in money—the actual work being performed by the driver—yet the total amount of parts billed by the truck makers' factory in fourteen months was \$240 and nothing had been purchased outside.

"I was informed that the machine was to be laid up for an entire new set of tires but investigation proved they were good for fully 2,500 miles more and did not require resetting. One day an "expert" electrician who happened to be passing the garage of this concern informed the driver that he should always discharge the battery if he did not have occasion to use the truck for a day or two, so thereafter on Saturday nights and other days when the truck was not to be used on the following day, the driver would jack up the wheels and allow them to run until the juice was exhausted. This accounted for the heavy cost of re-charging batteries.

"Four years ago a large Philadelphia department store purchased four of these Mitchell-Daimler one-ton trucks but found that the service was so unsatisfactory that they decided to dispose of them for practically nothing, and for over a year talked so strongly against self-propelled vehicles as to handicap the sale in that city.

"A large department store on West Fourteenth Street hearing of this opportunity purchased these machines and have had them in successful operation ever since. The trouble was not with the truck itself as the fact that the Philadelphia owner placed them in charge of young men of 16 and 17 at a wage scale of \$8.00 a week and expected these inexperienced drivers to run the vehicles from 6 in the morning till 7 at night, and then do whatever mechanical work was necessary in a tumble-down stable.

"It is an unfortunate fact that the general public hear comparatively little about the many

successful motor truck installations, the few failures are greatly enlarged and dilated upon with great injustice to the industry, and it is a fact borne out by investigation that the majority of such failures are not caused so much by imperfect design and material but are nearly always due to overloading, overspeeding, carelessness, neglect and abuse."

Many Bids for Fire Apparatus

The Board of Public Works of Oakland, Cal., advertised for bids for various types of motor-driven fire fighting apparatus to be used in the city and the following bids were recently received and turned over to the City Attorney:

For three combination chemical hose wagons, Consolidated Motor Car Co., \$15,750; Olsen & Hunter Auto Co., \$15,000; Webb Motor Fire Apparatus Company, \$15,375; Reliance Automobile Company, No. 1, \$14,940; No. 2, \$16,440; The Seagrave Company, \$14,685; Kanawah Chemical Fire Engine Company, \$4,950 per wagon. For one hose wagon: Joseph Pieroth, \$494.95. Three combination chemical and hose wagons: United States Fire Apparatus Company, \$4,650; American La France Fire Engine Company, \$5,250; The Seagrave Company, \$5,235. One motor-driven pumping engine: Webb Motor Fire Apparatus Company, \$9,000; Reliance Automobile Company, \$8,690; Mott Fire Engine Company, \$11,395; Gorham Engine and Fire Apparatus Company, \$9,500. Three third size steam fire engines: Ahrens Fox Fire Engine Company, \$18,750; American La France Fire Engine Company, \$17,985; Mott Fire Engine Company, \$17,985.

Portland's Motor Fire Equipment

The city fathers of Portland, Ore., have awakened to the possibilities of motor-driven fire apparatus, and after various tests two automobile combination hose and chemical wagons have been placed in commission, and runabouts have been ordered for two of the battalion chiefs.

Motor Stage Line in New York State

An automobile stage line is to be established in Orange County, N. Y., shortly, the Newburg Automobile Company being incorporated at Albany on May 23 for the purpose of operating the line. Former Governor of New York, B. B. Odell, B. B. Odell, Jr., and Herbert R. Odell are the incorporators. The company was incorporated with a capital of \$10,000.

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Good Roads Work in Manitoba, Can.

The authorities of the Province of Manitoba have been particularly active in the advance of good roads work in Canada and according to reports to the United States Government the various municipalities of this province have already set aside \$230,000 for road building during the year 1911. It is stated, however, that the present system of road making needs a central supervision of the work, so that it can be carried out on some well-defined plan in a proper and efficient manner. It has been suggested that the provincial government take the work out of the hands of the rural municipalities and appoint a good-roads commission whose duty it would be to supervise the building of roads. Under this system the amount of money raised in any one municipality would be spent on the roads within that district and not devoted to any other purpose, unless as a grant authorized by the municipality of the construction of its share of some main-traffic road.

The Winnipeg Automobile Club has taken a great interest in the construction of roads throughout the Province. A good-roads committee has been appointed to consider the various schemes for the improvement of roads and report as to the advisability of the club granting assistance in each case. The latest grant of this club has been \$500 toward the construction of a road from the city of Winnipeg to the village of Winnipeg Beach on the shores of Lake Winnipeg, a distance of about 40 miles.

Several Types of Road Hones

In discussing road honing or rut scraping in the Road Red Book of the Bureau of Town Highways, Frank D. Lyon, Deputy Commissioner of the New York State Highway Commission, comments as follows on the road drag:

The road hone which has heretofore been known as the split log drag can be constructed very cheaply, and one of these should be provided for all road hone districts of each town of the State excepting where the use of the same has demonstrated that fact that a more expensive hone is more efficacious and can produce better results at less expense. A hone of this kind is made by splitting a log eight or nine feet in length, and ten or twelve inches in diameter, in halves, which parts are placed about thirty to thirty-six inches apart, with the flat sides to the front so that the sharp edges will act as scrapers, and be fastened in this position by crossbars. These hones can be constructed at a cost of about \$2 or \$3 each.

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Protect Car
and
Passengers



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on Every Winner

at the Santa Rosa, Cal., Race Meet, May 6 and 7.

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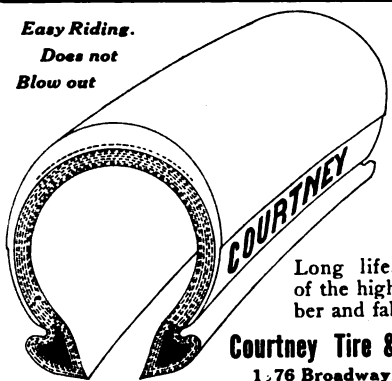
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The only strictly high speed car built in America. 300 cubic inch displacement. A mile in 51 seconds guaranteed.

MERCER AUTOMOBILE CO. Trenton, N. J.

Two pieces of railroad rail fastened by iron bars in the same manner would make a better and more durable hone. Plank may be placed on crossbars on which the driver may ride, if necessary. To use it the horses are hitched so that the hone shall have a slant of about 45 degrees to the direction of the pull of the team.

A still better and more effective hone is made of oak plank, four inches thick and ten inches wide, faced with a cutting edge of steel or iron, and beveled on the back. A heavy stick of timber to smooth and compact the road may be fastened to the back by means of chains about thirty inches in length. The hone is hauled by a tongue fastened rigidly to the face of the plank. There are several holes through this half circle spaced at equal distances, and in a position to receive a bolt passing through the tongue. By changing this bolt any desired slant may be given to the scraper.

A large motor truck has been substituted by the Delaware & Atlantic Telegraph and Telephone Company, for man-power in hauling telephone cables through the conduits about the city of Wilmington, Del. The truck is also used for the transportation of the spools of cable.

INCORPORATIONS.

Brooklyn, N. Y.—S. A. Weeks Co., with \$15,000 capital. Incorporators: Samuel A. Weeks, Emma Weeks and Samuel O. Weeks. To conduct an automobile business.

New York, N. Y.—Boston Delivery Supervision Company, with \$100,000 capital. Incorporators: John C. Yeager, D. DeF. Smith and Harry E. Smith. To manufacture automobile time recorders, etc.

Syracuse, N. Y.—B. W. Snow Company, with \$25,000 capital. Incorporators: Julia E. Snow, William A. Snow and Levi S. Chapman. To manufacture and sell automobile parts, etc.

Kennebec, Me.—Hilton Fire Department Supply Co., with \$200,000 capital. Incorporators: E. M. Leavitt and others. To manufacture and deal in fire department and automobile supplies and accessories of all kinds.

Pittsburg, Pa.—Lyon Motor Truck Co., with \$250,000 capital. Incorporators: C. P. Douglas, J. G. Douglas, J. D. Chesholm, Ernest Van Toff and George Wagner. To manufacture and sell motor trucks and motor machinery. Incorporated under the laws of West Virginia.

Newburgh, N. Y.—The Newburgh Automobile Company, with \$10,000 capital. Incorporators: B. B. Odell and Herbert Odell. To operate an automobile stage line.

Gloversville, N. Y.—Bowler Garage Co., with \$2,000 capital. Incorporators: C. C. Straus, S. Y. Stockamore and H. S. Bowler.

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Canisteo, N. Y.—Thomas Auxiliary Spring Company, with \$10,000 capital. Incorporators: Charles L. Thomas, Ernest C. Colter and Alexander Fleming. To manufacture automobile springs, etc.

Elkhart, Ind.—Elmer Auto Corporation, with \$700,000 capital. Incorporators: H. H. Elmer, H. H. Murden and J. P. O'Shaughnessy. To manufacture and deal in automobiles.

New York, N. Y.—The Paragon Auto Parts Manufacturing Company, with \$8,000 capital. Incorporators: Julius Pollok, Katie Pollok and George De Fevre.

Chicago, Ill.—National Motor Device Co., with \$60,000 capital. Incorporators: C. O. Garmire, J. H. Hoglund. To do a general manufacturing business.

Frederick, Okla.—Bustard Carburetor Co., with \$10,000 capital. Incorporators: Paul Bustard, H. L. Roberts and S. M. Gosnell. To manufacture automobile carburetors.

St. Louis, Mo.—Modern Repair & Construction Co., with \$10,000 capital. Incorporators: Eugene A. Freund, Alfred E. Roemmich, Charles Less, Aaron R. Solomon and William Lohse.

Cleveland, O.—Cleveland Taxicab Co., with \$131,000 capital. Incorporators: S. S. Olds, R. A. Webur, Benjamin A. Gage, A. Grantly and A. S. Doyle.

Akron, O.—Auto Appliance Mfg. Co., with \$50,000 capital. Incorporators: A. Aubel, Jr., T. Oscar Evans, A. J. Wills and W. Evans. To manufacture automobile accessories.

Cudahy, Wis.—Federal Rubber Co., with \$1,000,000 capital. Incorporators: John W. McMillan, J. G. Hardgrove and Garfield S. Canright. To manufacture automobile tires and other rubber goods.

New Albany, Ind.—American Automobile Mfg. Co., a corporation of Arizona, with \$1,000,000 capital, admitted to do business in Indiana with \$300,000 capital. Incorporators: H. K. Cole, Powell McRoberts, A. C. Davis and Berton B. Bales. To manufacture automobiles.

Memphis, Tenn.—Memphis Automobile & Garage Co., with \$150,000 capital. Incorporators: J. W. Falls, R. Henry Lake, N. C. Perkins and S. T. Carnes.

Milwaukee, Wis.—Stephenson Motor Truck Co., with \$300,000 capital. Incorporators: A. R. Halde- man, H. F. Friedrich and Paul D. Durant. To manufacture commercial motor vehicles.

Boston, Mass.—Gramm Motor Truck Co. of New England, with \$25,000 capital. Incorporators: C. F. Fischer and others.

Dover, Del.—Southern Only Motor Car Co., with \$100,000 capital. Incorporators: F. W. Edwardy, C. M. Edwardy and D. O. Pons.

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The Inter-State, the "high-quality-sane-price car," possesses characteristics and refinements of cars costing twice as much. Only a few of the many individual Inter-State features are here given; many others are described in a very handsome catalog which we wish to mail to you. Will you, therefore, merely signify your desire for this handsome book? It will show you the greatest automobile value in America today.

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Inches.
Stroke 5 inches.



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Greater rigidity and absence of friction—no loss of power, as clutch and gearset are of integral or unit design.

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Portland, Me.—Mogul Motor Truck Co., with \$200,000 capital. Incorporators: C. E. Eaton and A. F. Jones. To manufacture and deal in motor trucks, etc.

Buffalo, N. Y.—Bison Trimming Company, with \$10,000 capital. Incorporators: Louis C. Beesing, Henry C. Michael and Jacob Miller. To manufacture automobile tops, trimmings, etc.

Brooklyn, N. Y.—S. D. Manufacturing Company, with \$30,000 capital. Incorporators: Jacob R. Spangler, Otto De Wald and Harry Spangler. To deal in automobiles.

New York, N. Y.—Eastern Tire Co., with \$5,000 capital. Incorporators: Joseph M. Creamer, Forest O. Emmons and Hiram Ehrenberg.

New York, N. Y.—The Chelsea Garage, with \$1,500 capital. Incorporators: Clarence E. Ludwig, Ernest A. Buttrick and Wm. Van Antwerp Waterman.

Racine, Wis.—The Racine Automobile & Motor Works, with \$5,000 capital. Incorporators: Jens Mickelsen, Carl Hylberg and George Gammelgaard.

Automobile Calendar

May 30.—Track Race Meet, under the auspices of the Denver Motor Club at the Denver Speedway.

May 30.—Track Race Meet, under the auspices of the South Jersey Motor Club at Camden, N. J.

May 30.—Track Race Meet at Lakeside, Cal., under the auspices of Walter Hempel.

May 30.—The 500-mile International Sweepstakes Race on the Indianapolis, Ind., Motor Speedway. Prizes aggregating \$25,000.

May 30 to June 2.—The Sixty-Third Meeting of the American Society of Mechanical Engineers, to be held in Pittsburgh, Pa.

June 6.—Suburban Contest for Electric Cars in New York. Route to be over Long Island roads.

June 7.—The Seventh Annual Orphans' Day Outing in New York, under the auspices of the New York Orphans' Automobile Day Association. William J. Poertner, treasurer, Thoroughfare Building, 1777 Broadway, New York.

June 8.—Annual Hill Climbing Contests of the Chicago Motor Club up Algonquin Hill.

June 10.—Reliability Contest for Electric Cars, under the auspices of the Quaker City Motor Club.

June 10.—Race Meet at Philadelphia, under the auspices of the Philadelphia Auto Trade Association.

June 10 and 11.—Race Meet at the Hawthorne track in Chicago, under the management of Homer George.

June 13 and 14.—Track Race Meet at the Wisconsin State Fair Grounds track in Milwaukee, part of the Grand Circuit.

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

June 14.—Annual Orphan's Day Outing in Buffalo, N. Y., under the management of the Automobile Club of Buffalo.

June 15, 16.—Fourth Annual Chicago Automobile Club-Chicago Athletic Club Inter-club Motor-ing Match. Route to Janesville, Wis., and re-turn to Chicago.

June 15, 16 and 17.—Midsummer Meeting of the So-ciety of Automobile Engineers in Dayton, Ohio.

June 16.—Street Motor Car Carnival, under the aus-pices of the Washington (D. C.) Automobile Club.

June 17.—Hill Climb at Portland, Me., under the auspices of the Maine Automobile Association.

June 17.—Annual Hill Climb at Ossining, N. Y., under the auspices of the Upper Westchester Automobile Club.

June 17.—Start of the New York to Bermuda Motor Boat Race, under the auspices of the Motor Boat Club of America and the Royal Bermuda Yacht Club. Start to be made from Gravesend Bay.

June 18.—Light Car Race, to be run over the Bou-logne-sur-Mer course in France.

June 18.—Start of the Paris Journal 1,000-mile aero-plane race through Paris, Liege, Utrecht, Brus-sels and London.

June 19.—Reliability Contest of the Hyperion Field & Motor Club at Denver, Col.

June 20.—Reliability Run of the Automobile Club of St. Louis.

June 20, 21, 22 and 23.—Annual Convention of the National Gas and Gasoline Engine Trades As-sociation in the Hotel Ponchartrain, Detroit, Mich.

June 20-22.—Aviation Meet at Buffalo, N. Y.

June 21.—Start of the 1911 Glidden, or national tour, of the American Automobile Association from Washington, D. C., to end at Ottawa, Canada, on June 29. Distance, approximately, 1,090 miles.

June 24.—National Grand Circuit Meeting at BRIGHTON BEACH, New York.

June 25.—Light car race for the Coupe des Voiturettes over the Boulogne-Sur-Mer course, France.

July 1.—Third Annual New York-Albany Motor Boat Race, under the auspices of the New York Motor Boat Club.

July 1.—National Grand Circuit Road Races over the Riverhead (L. I.) course.

July 1, 2 and 3.—The Catskill Reliability Road and Hill Climbing Contest. Start to be made in New York. Under the management of the Motor Contest Association.

July 4.—Track Race Meet at Detroit, under the auspices of the Wolverine Automobile Club.

July 4.—Track Race Meet at the Denver Speedway, under the auspices of the Denver Motor Club.

July 4.—Road Race at Bakerfield, Cal., under the auspices of the Kern County Merchants As-sociation.

July 4.—National Grand Circuit Hill-climbing Con-tests at Port Jefferson, Long Island.



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 Help your car to keep healthy—no frictional disorders. Booklet No. 11 free.
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 SHOCK ABSORBER**
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{ 212-214 W. 88th St.	Philadelphia, 1437 Vine St.
Boston, 325 Columbus Ave.	Newark, 289 Halsey St.

- July 4, 5 and 6.—Annual Races of the Mississippi Valley Power Boat Association at Dubuque, Ia.
- July 4 to 19.—Prince Henry Tour through Germany and Great Britain.
- July 5-22.—Fourth Canadian Competition for Agricultural Shows at Winnipeg, Can.
- July 7.—Track Race Meet at Taylor, Tex., under the auspices of the Taylor Automobile Club.
- July 8 or 15.—Track Race Meet at the Belmont Driving Park in Philadelphia, under the auspices of the Norristown Automobile Club.
- July 9.—The French Grand Prix Race over the famous Sarthe Course, under the auspices of the Automobile Club of Sarthe and Oise and the patronage of the Automobile Club of France.
- July 10.—Start of the Elimination National Balloon Race from Kansas City, Mo.
- July 11.—National Grand Circuit Hill-climbing Contests at Worcester, Mass.
- July 12.—Start of the Indiana Automobile Manufacturers' Four-State Indiana Car Tour from Indianapolis.
- July 14.—Reliability Contest for Commercial Vehicles, under the auspices of the Quaker City Motor Club.
- July 17, 18 and 19.—Reliability Run, under the auspices of the Cleveland News.
- July 14.—Start of the Marblehead Motor Boat Race from Huntington Harbor, L. I.
- July 17-22.—Second Annual Reliability Tour of the Wisconsin State Automobile Association, starting from Milwaukee.
- July 22.—Start of the Motor Boat Race for the Reciprocity Cup, from Gravesend to Halifax, N. S.
- July 22-August 5.—Thousand-mile Aeroplane Contest around Great Britain, under the auspices of the Royal Aero Club of Great Britain, for a \$50,000 prize.
- July 29.—National Grand Circuit Meeting in Philadelphia, Pa., at Belmont Park.
- August 1.—Commercial Vehicle Reliability Run, under the management of the Chicago Evening American.
- August 8-9.—Western Power Boat Regatta at Peoria, Ill.
- August 8, 9 and 10.—1911 Regatta of the Great Lakes Power Boat League at Detroit, Mich.
- August 12.—National Grand Circuit Meeting in Detroit, Mich.
- August 12.—Reliability Run, under the auspices of the Quaker City Motor Club.
- August 16, 17 and 18.—Elimination Races to select American representatives for the Harmsworth trophy race for motor boats, Huntington Harbor, L. I.
- August 24, 25 and 26.—Races for the possession of the Harmsworth (motor boat) Trophy, to be held in Huntington Harbor, L. I.
- August 25-26.—National Stock Chassis Road Races under the management of the Chicago Motor Club over a course near Elgin, Ill.
- August 28 to September 4.—Second Annual Harvard-Boston Aero Meet at the Squantum, near Boston, Mass.

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September 1.—Commercial Vehicle Reliability Run, under the auspices of the Chicago Motor Club.
September 1.—Reliability Contest in Oklahoma, under the auspices of the Daily Oklahoman.

September 4.—Track Race Meet at the Denver Speedway, under the management of the Denver Motor Club.

September 4.—National Grand Circuit Meeting at the Indianapolis (Ind.) Motor Speedway.

September 4.—Start of the Motor Boat Carnival at Huntington Harbor, L. I.

September 4 to 9.—Annual Motor Boat Carnival under the joint auspices of the National Association of Engine & Boat Manufacturers and the Motor Boat Club of America at Huntington Bay, L. I.

September 7, 8.—Track Race Meet at Philadelphia, under the auspices of the Philadelphia Automobile Trade Association.

September 9.—National Grand Circuit Meeting at the St. Paul (Minn.) State Fair.

September 12, 13.—Race Meet of the Michigan State Automobile Association at the Grand Rapids track.

September 15.—Track Race Meet at the Appalachian Exposition at Knoxville, Tenn., under the auspices of the exposition management.

September 16.—National Grand Circuit Meeting at the Syracuse (N. Y.) State Fair.

September 18, 19 and 20.—Commercial Vehicle Contest, under the auspices of the Chicago Motor Club.

September 23.—National Grand Circuit Road Race at Lowell, Mass.

October 3, 7.—Annual Race Meet at Danbury, Conn., under the auspices of the Danbury Agricultural Society.

October 7.—National Grand Circuit Road Race in Fairmount Park, Philadelphia, Pa.

October 9-13.—One thousand mile reliability run of the Chicago Motor Club.

October 16, 17 and 18.—Reliability Run, under the auspices of the Motor Club of Harrisburg, Pa.

October 20 and 21.—National Grand Circuit Meeting at the Atlanta (Ga.) Speedway.

November 1.—Race Meet, under the auspices of the Waco, Tex. Automobile Club, at Waco, Tex.

November 2, 3, 4.—Reliability Run under the auspices of the Quaker City Motor Club.

November 3.—Light Car Race at Savannah, Ga. Part of National Racing Circuit.

November 7, 10.—Road Race, from Los Angeles, Cal., to Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.

November 9, 10 and 11.—Track Race Meet, under the auspices of the San Antonio Automobile Club at San Antonio.

November 10.—Track Race Meet at Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.

November 30, December 2, 3, 25, 26.—Race Meets on the mile saucer board track at Los Angeles, Cal.

Locomobile Cars for 1911

Complete information furnished on request

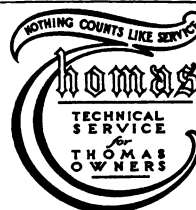
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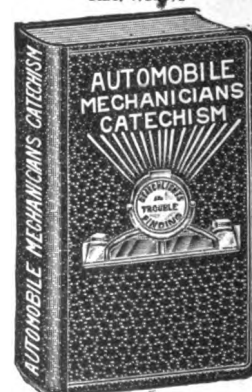
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poration—Manufacturers
of the popular E-M-F “30”
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The order calls for practically 135,000 tires and an equal number of Continental Demountable Rims---Gilbert type (Standard Universal Rim No. 3).

This single order FOR TIRES ONLY will amount to over FOUR MILLION DOLLARS.

Never before has an automobile concern making cars in immense quantities contracted for a strictly high-grade tire for its entire output of cars.

The transaction is distinctly to the credit of both the Studebaker Corporation and the United States Tire Company—

To the former, because of its unwillingness to supply any but tires of proven quality on its cars, regardless of additional cost involved;

To the United States Tire Company because the selection of its tires in preference to all others was made after three years' experience with one of its four brands—Morgan & Wright.

It is of interest to note that three years ago the then E-M-F Company decided that the magnetos was an essential part of every automobile and ought, therefore, to be included in the price of the car. This policy undoubtedly cost the company thousands of dollars in possible profits, but it has resulted in having magnetos furnished without extra cost on practically all American cars.

By its present decision to use only Continental Demountable Rims as standard equipment, it is adopting another policy that is well-nigh revolutionary in the automobile business, as heretofore rims of this character have been confined to the highest-priced cars.

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These tires were selected, not because they could be had at a less price (which was not the case), but because the E-M-F Co. had demonstrated to their entire satisfaction that these tires were the most desirable tires to put on their cars.

The placing of the immense order referred to above is a flattering testimonial to the manner in which these tires have stood up on the E-M-F cars during these three years.

The Studebaker Corporation has selected United States Tires and Continental Rims because of their expressed belief that this equipment on their entire product gives both the dealer and the man who buys the car the BEST equipment the American tire market affords.

United States Tires are sold under four brand names: Continental, G & J, Hartford and Morgan & Wright, and are manufactured in five of the largest and best equipped tire plants in the world. Under the present system of manufacturing, there is a **UNIFORM SUPERIORITY** in all these brands—a fact of immense importance to the motorist. In other words, United States Tires **HAVE THE STRENGTH OF FOUR**, yet they sell at precisely the same price asked for other kinds. They are undeniably

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Harroun Wins 500-Mile Race

Automobile Topics

10 Cents a Copy; \$2.00 a Year

Vol. XXII.

NEW YORK, JUNE 3, 1911

No. 9

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Automobile Topics

Illustrated

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No. 9.

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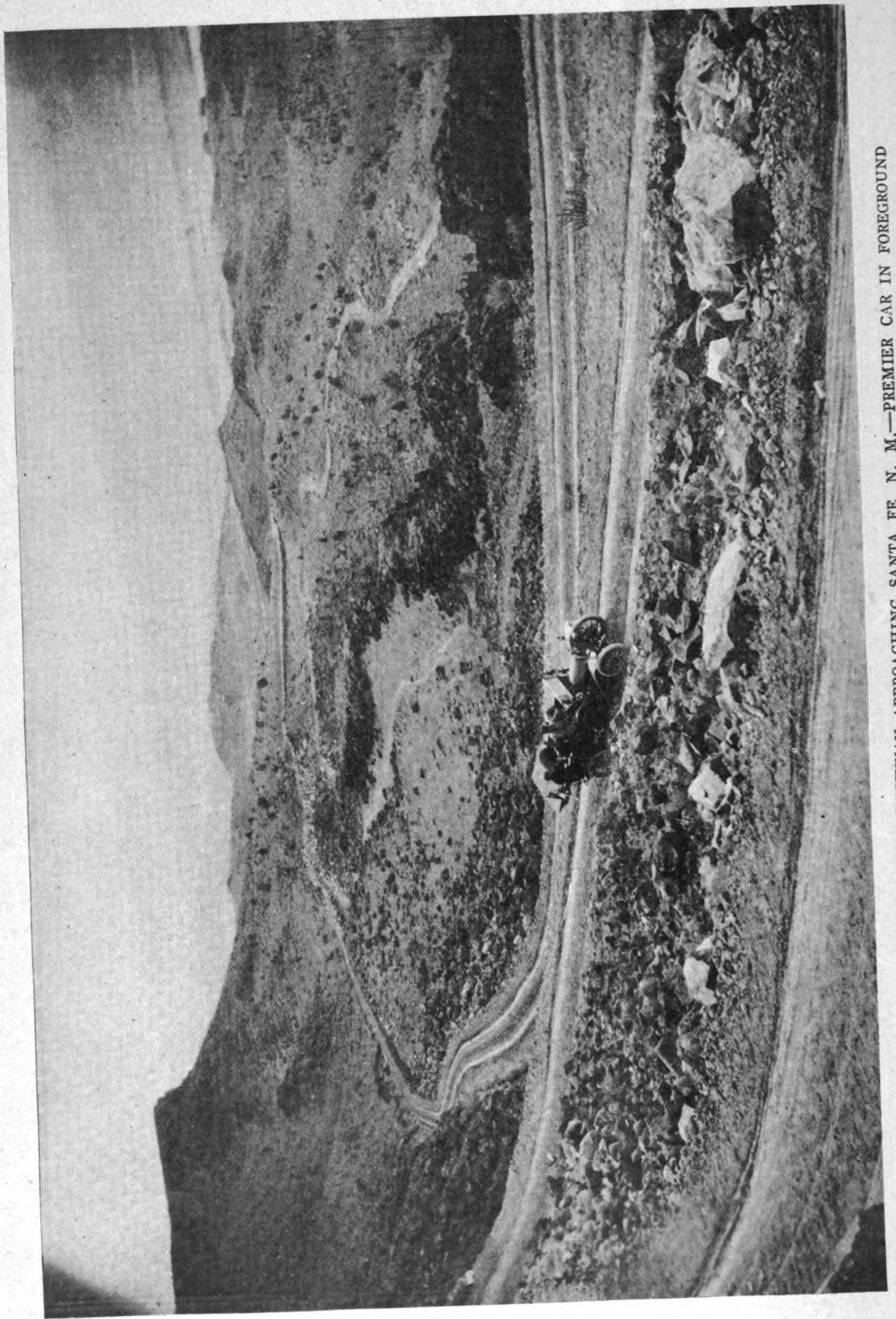
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Topics**
Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Vol. XXII.

NEW YORK, JUNE 3, 1911

No. 9

HARROUN WINS WITH MARMON

500 Miles Sweepstakes at Indianapolis Motor Speedway Held in Presence
of 85,000 People---Winners Time 6.42.08, an Average of 74.6

Miles Per Hour---Expected Reign of Disaster Fails to
Materialize and Single Fatality Occurs Early
in Race---Affair a Huge Success

HOW THE CARS FINISHED IN THE RACE

Place.	Car and Driver.	Time.	M. P. H.	Prizes.
1—	Marmon, Harroun	6:42:08	74.6	\$10,000
2—	Lozier, Mulford	6:43:51	74.28	5,000
3—	Fiat, Bruce-Brown	6:52:29	72.7	3,000
4—	Mercedes, Wishart	6:52:57	72.6	2,000
5—	Marmon, Dawson	6:54:37	72.3	1,500
6—	Simplex, De Palma	7:02:02	71.0	1,000
7—	National, Merz	7:06:20	70.3	800
8—	Amplex, Turner	7:15:56	68.9	700
9—	Knox, Belcher	7:19:09	68.3	600
10—	Jackson, Ccbe	7:21:50	67.9	500
11—	Stutz, Anderson	7:22:55	67.7	—
12—	Mercer, Hughes	7:23:32	67.5	—

INDIANAPOLIS, June 1.—After working from Tuesday night until this morning with a rest of only four hours the officials of the American Automobile Association reached decisions in the 500-mile race and accorded places to cars and drivers as follows:

Marmon (Harroun), first; Lozier (Mulford), second; Fiat (Bruce-Brown), third; Mercedes (Wishart), fourth; Marmon (Dawson), fifth; Simplex (De Palma), sixth; National (Merz), seventh; Amplex (Turner), eighth; Knox (Belcher), ninth; Jackson (Cobe), tenth.

Twenty-five cars were in the race when it

was called after the twelfth car finished. Following is the order in which they stood:

- 13—Firestone-Columbus, Frayer.
- 14—Inter-State, H. Endicott.
- 15—Pope-Hartford, Fox.
- 16—Fiat, Hearne.
- 17—National, Wilcox.
- 18—McFarlan, Adams.
- 19—Cutting, Delaney.
- 20—Mercer, Bigelow.
- 21—Simplex, Beardsley.
- 22—Vellie, Hall.
- 23—Cole, W. Endicott.
- 24—Benz, Burman.
- 25—Benz, Knipper.

The consolation winners were Gil Anderson, in Stutz car No. 7, who finished eleventh, and Hughie Hughes, in Mercer No. 36, who finished twelfth. In the semi-official scores given out at the finish of the race Lee Frayer, in a Firestone-Columbus car, got credit for being in eleventh place. The readjustment showed that Frayer did not finish in one of the twelve leading cars. The corrected time showed that Ray Harroun won the race in 6:42:08 instead of 6:41:08, an average speed of 74.6 miles an hour. Mulford was 1:43 behind the leader, according to the revised figures. Only twenty-eight seconds were between Bruce-Brown and Wishart, who trailed ten minutes behind Harroun.

INDIANAPOLIS, May 30.—This vast inland town is just witnessing the closing scenes of the biggest jamboree in its history. It has just "pulled off" the greatest sporting event in the annals of this country, has taken into its capacious and hospitable bosom scores of thousands of visitors, fed them, housed them, dispatched them to its Brobdingnagian speedway, presented to their entranced eyes the spectacle of an almost flawless speed carnival, and is now welcoming them as they return and speeding them on their varied ways. And in the four days beginning with Sunday, May 28, and to end to-morrow, May 31, automobile racing history of the ultra-modern kind has been written eloquently and enduringly.

Superlatives almost fail when one attempts to describe the race itself—the great 500 miles sweepstakes which constituted the sole event of the season's opening at the Indianapolis Motor Speedway. It was a contest of the Homeric kind—in which giants of the wheel matched skill against skill, brain against brain and daring and courage against like precious

qualities. For nearly seven hours they circled the brick paved speedway, measuring exactly $2\frac{1}{2}$ miles, to the cheers of 85,000 people who lined the immense oval, filling stand after stand, and parkings spaces by the score, and overflowing into the field by thousands, a goodly number of whom flocked to the danger spots—the steeply banked turns leading into the straights. First one and then another shot to the front and had his brief time of triumph; only to be displaced on account of temporary retirement for supply replenishment or tire replacement. As the field of 40 cars dwindled, although not as rapidly as was expected—some of the favorites dropped out—such as Bragg, Grant, Tetzlaff and Disbrow; but the majority of the fancied ones hung on tenaciously and strove and battled for the lead.

It was not until the race was nearly half over that the winner showed his hand. Ray Harroun, Indianapolis' pride and favorite, driving what he declares to be his last race reluctantly, handled his smoothly running six-cylinder Marmon "Wasp" with wonderful skill and judgment and drove a waiting race, with the result that, after letting out a few links in the last hundred miles, as if to satisfy himself and the onlookers that he was there "with the goods" jogged along well within his reserve, and, only slightly increasing his advantage, romped home a winner by 1 minute and 43 seconds in the phenomenally fast time of 6 hours 42 minutes 8 seconds for the 500 miles—an average of 74.6 miles per hour. His victory was a tremendously popular one, and was well earned.

Second and third places went to Ralph Mulford and David Bruce-Brown, driving a Lozier and a Fiat, respectively. Each was at times very dangerous, and so close was the race that at one time—at about the 470-mile mark—a scant thirty seconds separated the three leaders.

In the first half of the race, however, Harroun and the "Wasp" were quiescent. Bruce-Brown was the first star to twinkle steadily, and he kept in front with his Fiat for mile after mile, until it seemed as if he had a mortgage on the position. Then Ralph De Palma had an inning, and No. 2 (the Simplex) was featured as the luminary. Next it was the turn of Mulford in his white Lozier, and he drove for a long time with marvelous swiftness, contest-

ing the leadership even after Harroun began to "hit it up" with his Marmon.

The last 100 miles produced competition of the hair-raising order. Around and around the track the leaders flew, alternating in the lead as stops for tires or supplies were necessitated. Harroun never relaxed his grip on first place, however, always speeding up when his rivals got too close. He increased his lead in the last few miles, and could probably have made the gap still wider. The most marked characteristic of his driving was his consistency—his steady, even pace.

Wishart aroused great interest by his persistent duel with Bruce Brown. Although several laps to the bad, the Mercedes driver pursued Brown relentlessly. For scores of miles the two cars were separated by only a few hundred feet, and each driver seemed to be doing his utmost to outspeed the other.

There were many minor thrills, one period of deep gloom and one episode, prolonged, exciting and surcharged with anxiety, when the calling off of the race appeared inevitable. The gloom came when, within half an hour of the start, the ill-omened Amplex turned over and killed the mecanicien, Dickson, and severely injured the driver, Griener. The accident occurred on the back stretch and was in no way attributable to either the track or the large number of cars. By many, however, it was regarded as a forerunner of an avalanche of mishaps, and not

until the very end of the race were they convinced of their error.

Just before the half way point in the race was reached came a succession of accidents that presaged disaster, but were almost miraculously shorn of fatalities. One of the Case cars, driven by Jagersberger, came down the stretch careering wildly. Just after passing the starting point it swooped toward the pits

and a cry of horror went up. Following close were several other cars, and their drivers, seeing the wobbling Case, shut off power and strove to stop.

Jagersberger ordered his mecanicien, Anderson to jump out of the car and push it off the track. Anderson lost his balance and fell sprawling on the course in front of the on-speeding racers. Harry Knight in a Westcott was closest to the prostrate mecanicien, and he selected to run in near the pits to avoid striking Anderson. His car skidded and crashed into Herb Lytle's Apperson, which was at the pits and over-

turned it. The Westcott continued on its wild dash, glancing off Hearne's Fiat and finally brought up against a fence. Knight and his mecanicien were hurt and the Apperson and Westcott eliminated from the race.

Such a day of excitement and crowds Indianapolis never has had. The town has been packed and jammed, motorists and thousands of other "sports" swarming in by automobile, by trains and trolleys, and even in horse-



RAY HARROUN, THE WINNER

drawn vehicles and on foot. They came from the Atlantic and the Pacific coasts, and from as far north as Canada, and from almost as



RALPH MULFORD, SECOND

far south as the Mexican border. The advance guard buckled in Sunday, and the trickle became a steadily flowing river on Monday. By Tuesday morning it was an Amazon, and cars massed on Illinois and other central streets and vomited forth thousands of dirty but happy passengers, all out for a holiday. The cars were of all sorts and conditions, bearing the numbers of dozens of States. They were nearly all powdered with a fine, penetrating dust that made its way everywhere.

Traffic and all other rules were temporarily suspended. The police exhibited an unwonted laxity, striving merely to keep the traffic—a-wheel and a-foot—moving, and feel satisfied to be able to do that. The hotels were filled to capacity, cots failing to satisfy demands, and chairs being eagerly snapped up. Everywhere that lodgers were taken was soon full also, and the citizens of the town took in hundreds of guests. The Speedway Co. assigned visitors to these places and was of great assistance. Everybody lent a hand, and the seemingly impossible was accomplished.

A feature of the influx of visitors was the women. They were there in hundreds—all, or nearly all, dusty and bedraggled on arrival,

but metamorphosed in a short time. Elegantly dressed and really distinguished appearing many of them were, and they seemed, if possible, even more eager than the men to sample the day's sport. Everybody was in good humor and disposed to overlook minor shortcomings. The underworld was in evidence also, both sexes plying their trade and preying upon incautious and careless visitors.

Too much praise can scarcely be showered on the speedway and race officials. The gigantic inclosure was a marvel to behold. Executive ability that falls little short of genius was evident everywhere. Provision for handling the immense crowd had been made and was carried out almost to perfection. Autos came in one way, those on foot another, and each was distributed in a way compelling admiration. The driveways and footways were oiled to keep down the dust. The different stands were plainly marked and there was no delay or confusion in reaching them. The overflow into the field was sent there via an overhead bridge. Everywhere were soldiers—the Speedway Guard as they are called and really members of the State militia—



DAVID BRUCE-BROWN, THIRD

persuasive but firm, preserving order and permitting no nonsense.

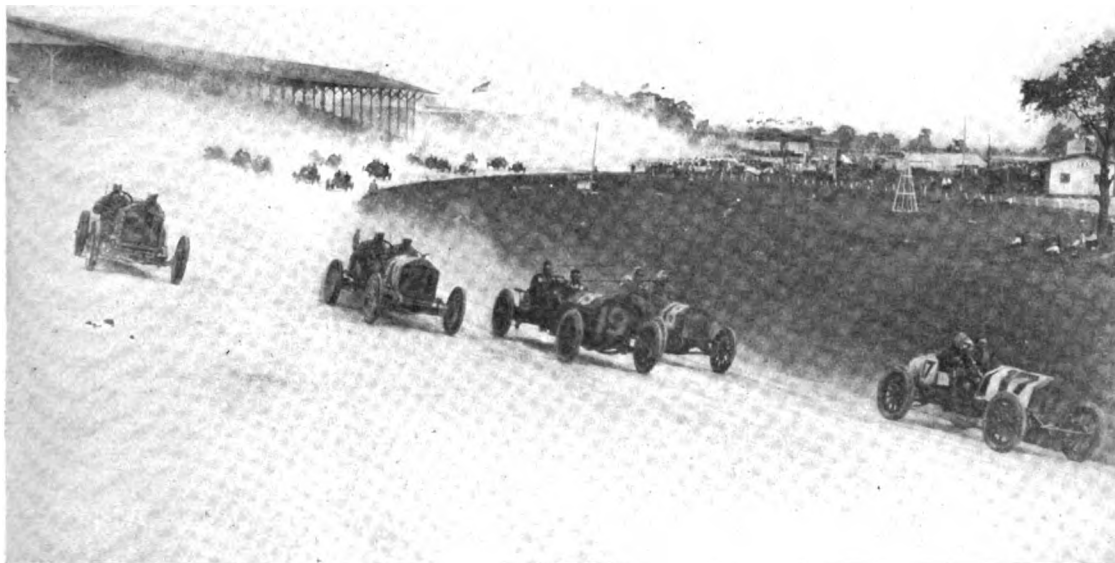
The race management was almost equally

efficient and smooth working. Referee A. R. Pardington, Chairman S. M. Butler of the A. A. A. Contest Committee, Starter F. J. Wagner, all worked ceaselessly and were assisted by minor officials, dictagraphs, adding machines, electric timers, telephones, etc. The track was kept clear, the pits and supply stations were conducted properly, the ambulance and emergency departments were efficient and reliable.

There was one slip up, however, and that was in connection with the scoring. This was

when Bob Burman, who established new Speedway records on May 29 received his gold "Firestone Speed King" crown. The golden helmet with which he was presented is an exact duplicate of the English crown and is valued at \$5,000. After receiving the trophy, Burman placed the glittering bauble on his head and made a circuit of the course in his Benz speed demon.

As soon as the new auto king had made his departure, the racing cars for competition in the big contest came forth and began the



THE CARS STRUNG OUT AT START OF LONG GRIND

the most gigantic task connected with the handling of the race, the work of keeping track of 40 cars passing a given point every few seconds being no sinicure. This was discovered by those in charge of this end of the race before it was very old and after the first 100 miles or so had been run the spectators were officially acquainted with the three leading cars only.

Even after the race had been completed there was some doubt as to the standing of the cars. It was certain that Harroun had won it, but some people claimed that Bruce-Brown and not Mulford was entitled to second place. To-night the officials started an examination of the scoring sheets and records.

At 9 o'clock the opening ceremonies began

parade and introduction which preceded the actual starting ceremonies.

At this time the crowds were pouring into the stands and field in solid streams, which increased steadily to the various parts of the course. Outside the motordrome the roads were massed solid with automobiles and thousands of pedestrians, who detrained from many trolley lines and railroads. Late arrivals over the automobile roads reported that the motor parade extended from the center of the city to the Speedway, a distance of about five miles in an unbroken line, and it was estimated that not less than 5,000 cars were packed either inside or outside the motordrome, representing a value of not less than \$10,000,000.

How the Race Was Run

As the hour for the start approached the excitement grew extremely intense, not only among the drivers and mecaniciens who were assigned to participate in the big race, but also with the spectators, who had been pouring into the big grandstands from early morning. Starter Fred Wagner and his assistants were the busiest persons at the track, arranging the line up of the cars back of the tape, and at five minutes before ten o'clock the first of a series of aerial bombs were exploded as a signal to prepare for the start. C. G. Fisher, president of Indianapolis Speedway Company, and his partner, J. Q. Allison, went to the tape in a runabout to act as a pacemaker.

Fisher's car had the pole and abreast in the front row were the Case car, Lewis Strang; Simplex, Ralph De Palma; Inter-State, Harry Endicott, and National, Johnny Aitken. In the second row were the two Pope-Hartfords, carrying Louis Disbrow and Frank Fox; Westcott, Harry Knight, and the two Case cars with Jagersberger and Will Jones. The Stutz car, with Anderson at the wheel, was the first in the third row, with the Mercedes, Spencer Wishart next, and the Amplex, W. H. Turner; Knox, Fred Belcher, and Buick, Arthur Chevrolet, in the order named. In the fourth row were the Buick, Fiat, Alco and two Nationals, carrying Charley Basle, Eddie Hearne, Harry Grant, Charles Merz and Howard Wilcox, respectively, while in the following row were the McFarlan, Bert Adams; the three Jackson cars, carrying Harry Cobe, Jack Tower and Fred Ellis, and a Cutting with Ernest Delaney at the wheel. In the sixth row were David Bruce-Brown, in a Fiat; Lee Frayer, in a Firestone-Columbus; Joe Dawson and Ray Harroun, in Marmons, and Ralph Mulford in a Lozier. The cars in the seventh row were the Lozier, Apperson, two Mercers and the Simplex, carrying Teddy Tetzlaff, Herbert Lytle, Hughie Hughes, Charley Bigelow and Ralph Beardsley, respectively. Caleb Bragg in his Fiat was at the pole in the eighth row, and with him were Howard Hall in a Velie; Bill Endicott in a Cole; Al Griener in an Amplex, and Bob Burman in a Benz. Billy Knipper in a Benz was in the rear of this line.

President Fisher set a pace of about forty miles an hour and the contesting cars began to string out around the course, the drivers jockeying for a favorable position for the real

start of the long grind. The pace was increased as the string turned into the home-stretch several minutes before ten o'clock. As the cars approached the tape a big bomb exploded and an American flag was unfurled high in the air. This was a signal that the race had commenced in earnest. Mr. Fisher sent his car to the side and left the field clear for the contestants. Johnny Aitken was close behind Mr. Fisher when the latter drew aside and at the bomb he sent his National to the front and crossed the tape first with Ralph De Palma in his Simplex a short distance behind. The following crossed the tape after these two: Wishart, Belcher, Disbrow, Turner, Hearne, Fox, Endicott (Harry), and Strang.

The crowd rose upon its feet and let loose a terrific roar as the cars completed the first of the 200 laps, but the noise of the barking exhausts completely drowned the demonstration. The drivers were now devoting their entire attention to the cars and the course and paid little heed to the plaudits of the spectators. Harroun was content during the first few laps to keep his "Wasp" in the rear of the procession. Arthur Chevrolet was the first driver to stop, he pulling up to the pits with a flat tire on the tenth mile. Spencer Wishart, the young Westchester (New York) sportsman, had his Mercedes going at a great rate and battled with Belcher's six-cylinder Knox for the lead, when Aitken had dropped back to third place.

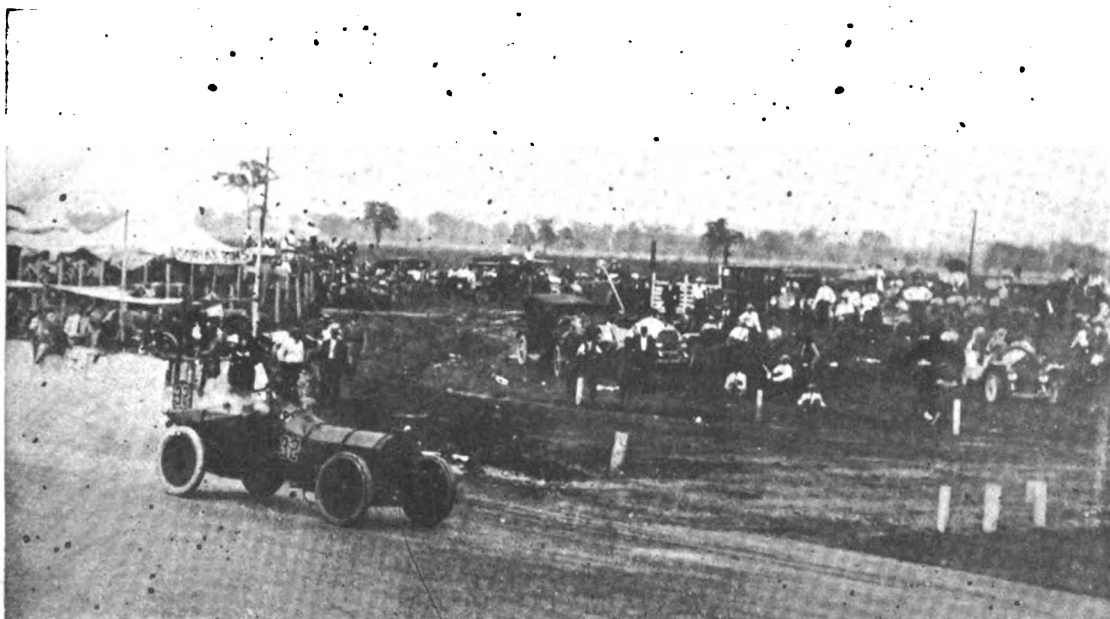
Wishart was leading the field at the end of twenty miles which were covered in 15:06, a minute behind the record. Belcher was second, Aitken third, De Palma fourth, Bruce-Brown fifth, Harroun sixth, Dawson seventh, Turner eighth, Lytle ninth and Disbrow tenth.

The terrific strain of the cars speeding over the brick surface began to show upon the tires at this stage of the race and there were quite a few stops at the repair pits for new shoes. Basle had trouble with his tires on the twentieth mile and again on the thirtieth mile, while Wishart lost the lead to Belcher shortly after the twenty mile mark was passed through a tire stop. At thirty miles Belcher had his Knox in front, covering the twelve laps of the two-and-a-half-mile course in 25:07. Wilcox was still hurling the National on at a terrific clip and running a close second. The Fiats and Simplex cars roared on after the two

leaders, with Harroun, Merz and Burman bringing up in the third group.

The first thrill and the only accident of the day that resulted fatally for a contestant, occurred on the thirteenth lap when the rear tires of the Amplex car, which had its baptism in blood during the week when Joe Horan broke his leg when the car left the track, blew out simultaneously. The driver, Al Griener, tried desperately to keep the car upon its course, but it skidded around the brick track and both rear wheels were torn

Just after the fifty-mile mark had been passed De Palma cut lose with a burst of speed that astonished the spectators and carried him from fourth into first place before the end of the sixtieth mile. He was leading at this point, having covered the distance in 48:56. Bruce-Brown retained his lead in second place, while the youngster, Harry Knight, in a Westcott, had moved into third place. On the sixty-seventh mile Disbrow was compelled to pull up at the pits with ignition trouble.



HARROUN SPEEDING HIS PECULIAR SHAPED MARMON "WASP" INTO THE FIRST TURN

off. The car turned over and S. P. Dickson, the mecanicien, was pinned under the wreckage and instantly killed. Griener was thrown some distance and rendered unconscious. He suffered a cut in the left arm and some bruises.

With the progress of the race the cars were stretched out all along the course and the scorers were commencing to meet with difficulties. Stops at the repair pits were also becoming more numerous. The cars were some distance behind the record when Aitken, the leader, crossed the fifty-mile mark in 41:07, with Bruce-Brown closely pressing him for the front position. Wishart was third. Bruce-Brown was driving like one possessed and several times between the thirtieth and fiftieth mile he was in front.

On the seventy-eighth mile the first withdrawal from the race of the car through mechanical trouble occurred, when Caleb Bragg, the wealthy Cincinnati motorist, was compelled to stop when his Fiat broke a crankshaft. From then on Bragg witnessed the race from the side-lines and assisted his teammates when they stopped at the supply pits. Bruce-Brown continued his fast pace after the sixty-mile mark and before the next ten miles had been covered he was again leading the field, closely followed by his pal, Ralph De Palma. Aitken had passed Knight and was in third place, while Turner was in fifth position. Wishart was sixth, Merz seventh, Mulford eighth, Grant ninth and Cobe tenth. Bruce-Brown had covered the seventy miles in 56:05.

Bruce-Brown maintained his advantage, but during the next twenty miles the Lozier combination of Tetzlaff and Mulford, began to show and at the end of the ninetieth mile they were in second and third places, respectively. Knight was in fourth place and Aitken immediately back of him.

Arthur Chevrolet had been having considerable trouble with his tires, the fast pace in which he sent his car over the brick surface virtually burning them to the rims. On the ninetieth mile his Buick broke a crankshaft and the daring Swiss pilot was compelled to stop. Bruce-Brown was still leading when the first century mark was passed in 1:22:16, but the time was behind the record. During the next ten miles De Palma again showed a burst of speed and moved his Simplex into third position, behind Mulford, who was following in the wake of Bruce-Brown. The relative positions of the leaders remained unchanged during the next ten miles, but before three more laps had been covered after the 120-mile mark an accident occurred that resulted in the elimination of two of the strong contenders in the race and almost culminated in another fatality.

As the Lozier, driven by Tetzlaff, and the Pope-Hartford, with Disbrow up, were speeding down the stretch toward the tape a tire on the former car blew out and the car veered off its course and directly in the way of the closely following Pope-Hartford. Disbrow did not have time to steer out of the way and the Pope-Hartford struck the Lozier squarely and sent it spinning in the direction of the fence back of which a number of spectators were gathered. The spectators were too frightened to move and stood spellbound. Just before reaching the fence the white car containing Tetzlaff and his mecanicien turned over and the occupants were thrown out. Dave Lewis, of Los Angeles, Cal., the mecanicien, sustained a fracture of the left pulvis and a cut between his second and third toe on his right foot. He was hurried to a hospital. Tetzlaff was uninjured. The force of the collision caused the Pope-Hartford to spin around the track, but Disbrow cleverly controlled the machine and it brought up near the pole without doing any further damage. Disbrow and his mecanicien, Richard Ulbrecht, were uninjured, but the car was damaged to such an extent that it had to be withdrawn

from the race. Tetzlaff's car was also taken out of the contest.

The accident to Tetzlaff and Disbrow occurred on their 125th mile. About this time a great duel was in progress between Harroun and Knight for fifth place. Bruce-Brown completed 130 miles in 1:45:26. The completion of 140 miles saw the elimination of another car. This time it was Harry Grant's Alco that fell by the wayside. Grant was rendered hors de combat with a burned out bearing, which had been holding him in the rear for some time. De Palma just nosed out Mulford for second place at the end of the 140th mile, which distance was covered by Bruce-Brown, who was still leading, in 1:53:18. Knight was still running fourth. Charles Basle about this time withdrew his Buick from the race with a broken crankshaft, and Ellis also dropped out with his Jackson.

Bruce-Brown was leading by a close margin over Ralph De Palma when the 150th mile was passed in the record time of 1:59:12. This time was a trifle less than two minutes better than the record of 2:01:09.43, made by Joe Dawson in a Marmon on the Atlanta speedway on November 7, 1910. Ralph De Palma was displaced in second position by Harroun after the 150-mile mark was passed, and at 160 miles, which were covered in 2:20:51, Bruce-Brown, Harroun and Mulford were running in the order named.

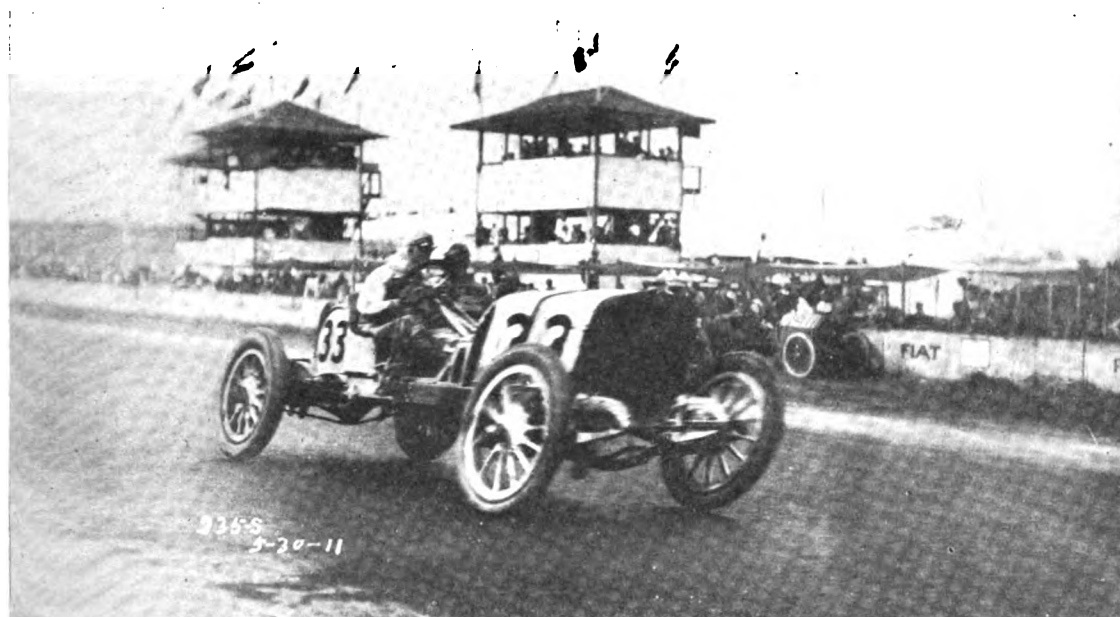
On the 180th mile Harroun, whose car seats but one, stopped at the pits and Cyrus Patschke, winner of a number of 24-hour races, took his place in the "Wasp." Just as soon as Patschke got going he started a pace that made the other drivers look up, and before the 190th mile had been passed the peculiar-looking yellow Marmon was leading the field. He completed 200 miles in 2:43:21, which surpassed the previous record for that distance, made by a car of the same make, driven by Joe Dawson on the same track on July 4, 1910. Dawson's mark was 2:43:20.14. Patschke was closely pressed by Bruce-Brown, with Mulford in third place. Wishart was in fourth place, followed by Knight, De Palma, Dawson, Turner, Lytle and Henry Cobe.

As Hearne's Fiat was speeding down the homestretch on its eighty-first lap, or 202.5 miles, the steering knuckle snapped and the car left the course and ran into the infield. Parker was driving at the time, acting as a

relief for Hearne, and he brought the car to a standstill before any damage was done. Repairs were made to the broken knuckle, but the car was out of the running when it again returned to the contest.

Patschke and Bruce-Brown were having a battle royal for first place, with the former having the advantage on the 240th mile, when the crowd in the grand stand let out a yell. The steering knuckle on the Case, driven

Apperson and Hearne's Fiat, which was laid up with a broken steering knuckle. Knight's car skidded off the track and headed directly for the two cars at the pits. The Westcott collided first with the Apperson and then with the Fiat, overturning the former. Knight's car came to the end of its wild dash when it struck a fence and threw the driver and mechanic, John Glover, some distance. Both men were injured and hurried to a hospital.



RALPH MULFORD "BEATING IT" ON THE STRETCH

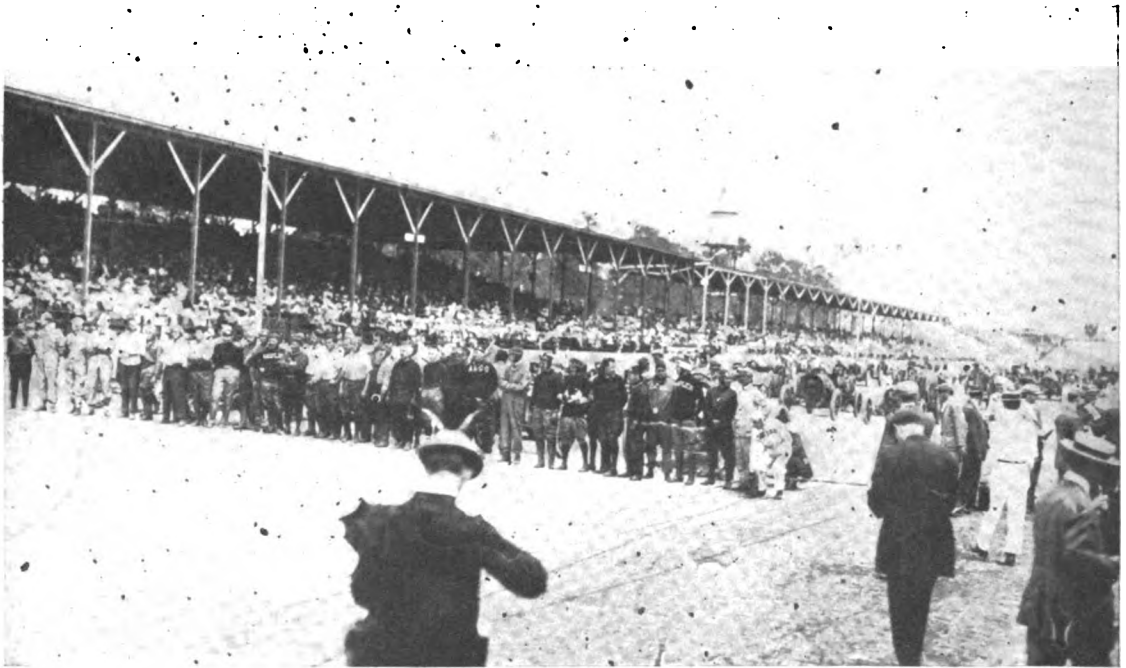
by Jagersberger, snapped as the car was passing in front of the stand. Jagersberger lost control of the car and it crashed into the cement retaining wall and then rebounded back upon the course with crushed wheels. L. Anderson, the mechanic, was thrown out and directly in the path of the onrushing cars. The spectators gasped in horror, for it seemed impossible that the fast-traveling cars which followed in the wake of the wrecked Case car could be steered clear of the prostrate Anderson.

Starter Wagner made an effort to flag the contestants that followed, but he could do little more than check their speed. Harry Knight, who was closest to the wrecked Case, turned out toward the judges' stand to avoid running over Anderson, and he skidded at a great rate.

At the pits near the south end were Lytle's

This mishap did not effect the drivers of the leading cars, and shortly before the 250th mile Harroun again took command of the "Wasp" and continued at the same consistent and speedy pace that had been maintained by Patschke, and he flashed across the line at the end of 250 miles in the lead. When the half-way mark was passed Bruce-Brown was still in second place, while De Palma, Mulford, Wishart, Dawson, Cobe, Turner, Merz and Wilcox were running in the order named.

About this time the crowd was treated to several exciting near-accidents. As Howard Fry, substituting for Bigelow, was sending his Mercer along the stretch at a great rate, the car skidded considerably and headed for the pits. Fry tried desperately to steer the car back upon the course, but was not successful, and he then locked his brakes. The car swung



THE DRIVERS POSED FOR THEIR PICTURES BEFORE THE CONTEST

completely around before it came to a standstill. When Fry again started in the race he received a round of applause from the spectators who had witnessed his display of skill and coolness. Another accident took place on the backstretch when the Jackson car, with Bob Evans, acting as substitute for Jack Tower, skidded off the track when the driver turned out for a passing competitor. Evans was thrown from his car and sustained a broken ankle. Assisted by his mechanic, he drove back to the repair pits and was relieved. He was sent to a hospital, where it was said that he was suffering from nervous collapse in addition to a broken ankle. Bob Burman showed his coolness and daring when one of the rear tires on his Benz blew out with a loud report on the 220th mile. The car swerved, but Burman continued and the tire loosened and jumped over the stone wall at the south curve. He completed the round on the bare rim.

During the entire latter half of the race Harroun was never headed, though at times he was closely pressed by De Palma and Mulford. The pace had settled down at this period to a steady grind, and lap after lap was reeled off at record-breaking speed. Interest centered chiefly in the first three cars, as these

were the only ones for which the scores were posted. The time of the first car was only given. At the end of 300 miles Harroun was first and Mulford was in second place, while Bruce-Brown was third and De Palma fourth. Harry Cobe was fifth, Aitken sixth, Wishart seventh, Turner eighth, Merz ninth and Gil Anderson tenth. The time for the 300 miles was 4:03:24. All marks above 250 miles were new records, as that was previously the longest race ever run on a speedway.

On the 330th mile Aitken, whose National has been a strong contender during the early part of the race, dropped out of the running, his car having developed a broken steering knuckle. At the end of 350 miles Harroun was still in the lead, and the cars making from seventy-three to seventy-five miles an hour. The cars were beginning to show the wear and tear and so were the drivers also, their jaded appearance when stopping at the pits indicating the terrible strain to which they had been subjected.

Another car was eliminated and a serious accident narrowly averted when shortly after the leaders had passed the 350th mile the steering knuckle on Strang's Case broke as he was coming down the stretch. The car crashed into the cement wall just north of the pits, but

it glanced off and the driver, with the application of the brakes, was able to stop it. The car was in the center of the track, but by clever driving several of the racing cars were successfully guided around it by their pilots.

Harroun completed the 350 miles in 4:44:14. Of the forty starters there were twenty-seven still in the race when but 150 miles had to be covered by the leaders to bring it to an end.

Instead of decreasing his speed as the race neared an end, Harroun did the opposite, and the average pace was increased from 73.94 miles an hour to 74.49 miles an hour. The race had now developed into a three-cornered fight between Harroun, Mulford and Bruce-Brown, with Joe Dawson a good fourth. Harroun completed the fourth century in 5:22:15, and turned into the last 100 miles with a lead of about a lap. Ralph Mulford was second and Bruce-Brown was third. Dawson was fourth, Wishart fifth, Turner sixth, Merz seventh, Cobe eighth and Frayer had taken his Firestone-Columbus into ninth place, while De Palma was back in tenth place.

The crowd became greatly interested in the battle now, that is as far as the first three cars were concerned, the scores of the others not being announced, but its sympathy was with the second and third cars, the drivers of which were desperately trying to overhaul their fleetier companion in the "Wasp." Although Harroun made only four stops for tires, each time that he did go to the pit he lost valuable ground to the pursuing Lozier and Fiat. Things were evened in this respect, however, when the latter cars were troubled with tires. As had been predicted the race was one in which tires played a most important part and the blow out of a tube or the wearing down of a shoe was likely to result disastrously with the driver who had this misfortune befall him.

At 470 miles, Bruce-Brown had again forged into second place and Mulford was in the following position with Dawson behind him and the latter closely followed by De Palma, who had again jumped forward in his Simplex. As the flying cars reeled off mile after mile, the crowd began to get restless. The strain was almost too much for human nerves stretched to the breaking point by the pranks of Fate. The continuous dropping of oil upon the brick course had put it into a most dangerous condition and extreme caution had to be used by the drivers in making the turns

to prevent their cars from skidding off the track.

The first three cars were several miles ahead of the rest of the field, but the distances separating the three leaders were very small. The fact that there were as many cars still running in the race surprised a majority of the "sharps" who had predicted that the end would see but one, or perhaps two cars, in the front and the twenty-seven cars still on the track went to demonstrate to the big crowd the quality of the material in the make up of the American cars.

As the finish approached the leaders were going at a dizzy pace, particularly Mulford and Bruce-Brown, who were attempting to overhaul Harroun. At 490 miles Harroun was speeding his car on the stretches, but taking things easier on the turns. In order to avoid the slippery section of the track at the pole Harroun drove his car wide. Bruce-Brown was thundering at his heels with Mulford, Dawson, Wishart, De Palma and Turner following in the order named.

The crowd was upon its feet as the long grind was close to end and it let loose a great cheer as Harroun received the green flag from Starter Wagner, as a signal that he was on his last lap, and as he approached the tape for the final time a tumult of applause that lasted until several seconds after he had finished broke loose from the spectators. There was but a narrow margin separating the Fiat and the Lozier from second and third place, and when Bruce-Brown was compelled to stop with mechanical trouble the general crowd let out a groan, while those who favored Mulford cheered the blond driver on. Mulford was officially credited with crossing the line in second place, while Bruce-Brown was third. Wishart in a Mercedes finished fourth. A piece of metal thrown against the radiator of the Marmon, driven by Dawson, brought that car to a stop on what was thought to be its 199th lap, but which after investigation later proved to be his 20th, and that driver was awarded fifth place.

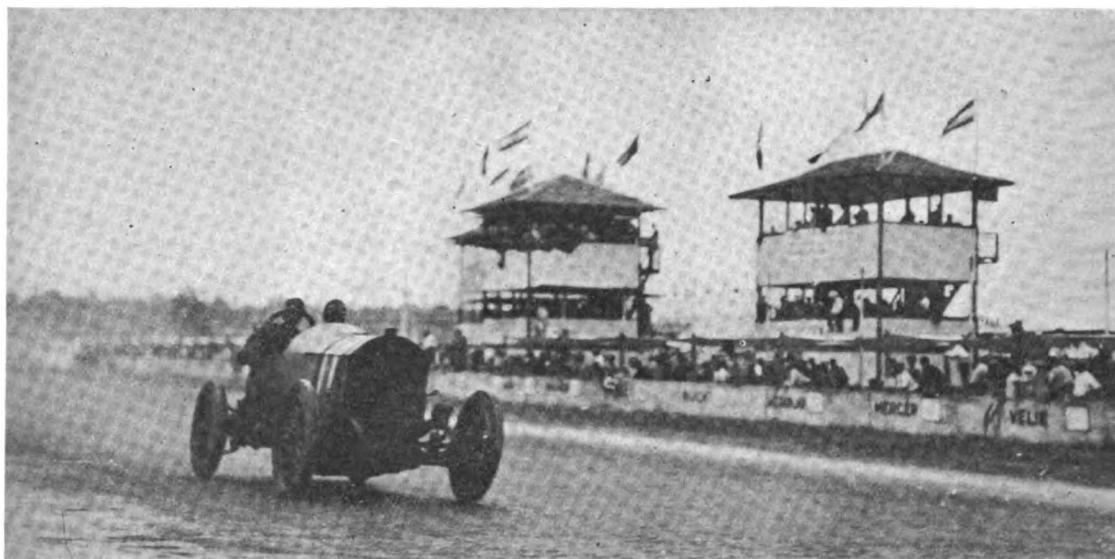
The first announcement after the finish of the race gave fifth place to De Palma, sixth to Merz, seventh to Turner, eighth to Cobe, ninth to Belcher, tenth to Hughes, eleventh to Frayer and twelfth to Anderson.

There was considerable confusion attached to the gigantic task of scoring the big race

and when it was history there were quite a few complaints heard. One of these was to the effect that Bruce-Brown and not Mulford had finished second. The night of the race the Contest Board of the American Automobile Association, the timers and the speedway officers checked and backchecked the scoring

assistant official timer; C. W. Sedwick, of Indianapolis, representative of the A. A. A.; S. M. Butler, of New York, chairman of the Contest Board of the A. A. A., and C. E. Shuart, representing the Indianapolis Motor Speedway.

Harroun received a tremendous ovation



WISHART, WHO FINISHED FOURTH, PURSUING BRUCE-BROWN ON STRETCH

of the race and at this writing (Thursday) they have not announced the completion of the work. They did find, however, that the scores of the first four cars were correct and that Dawson was entitled to fifth place as he had completed his 500 miles when the accident occurred to his radiator.

The three adding machines in the upper stands showed in checking the tape that Dawson had completed his 500th mile, while the lower tape at the wire and the timing machine gave him 199 laps. This discovery pushes Ralph De Palma into sixth place, and Merz into seventh and Turner into eighth. There is still some doubt about ninth and tenth places, there being a dispute for these positions between Cobe, Belcher, Anderson and Stutz. The re-checking brought to light the fact that Harroun's time was 1 minute slower than at first announced and should be 6 hours 42 minutes 8 seconds.

The committee that checked the records consisted of A. R. Pardington, of New York, official referee; C. H. Warner, of Beloit, Wis., official timer; Harry Knepper, of New York,

when he brought his car to a standstill in front of the grand stand after he had finished the race. The first thing he said after he crawled out of his seat was that he was hungry and wanted something to eat. Later he made the following formal statement:

All credit is due my car for the brilliant victory. At no time was the throttle wide open and I relied solely upon consistent high speed to win for me over occasional bursts in the backstretch. The weather was noticeably warm, although I did not suffer in any way from the heat.

The last hundred miles was by far the easiest of the entire run and the car was less difficult to handle on the turns. At first there was a tendency to slip, which increased toward the 200-mile mark, but from that time I had little trouble in holding the car to its course.

In my estimation the limit is reached at 500 miles and the distance is entirely too long for the endurance of the driver. I was relieved from the 170th to the 250th mile, and the rest of the dash was extremely refreshing.

As the result of his victory Harroun is richer by about \$15,000. His prize money for first place is \$10,000 from the promoters. In addition, he gets the prizes offered by the various accessory manufacturers. His car had

Dorian rims, which gets him a part of the Dorian purse, amounting to \$250. The Schebler carburetor, with which the machine was equipped, means \$2,500 more. The Remy magneto that his car carried to victory, or rather that carried his car to victory, will fetch him the \$1,000 bonus offered by its manufacturers, and the Columbia Lubricants Co. gave \$500 because Monogram oil was used.

In addition to all this the Firestone Tire & Rubber Co. will probably provide a bonus, as it was their make of tire that made the wonderful win possible for Harroun. The brick track, with its well-known reputation as a "tire eater," only required Harroun to stop four times for tire changes, and these changes were all made on the rear right wheel. The other tires remained on the car throughout the race. Dawson's car was also equipped with Firestones, as was the Firestone-Columbus, which finished the race in twelfth place, according to the first revised scores.

While the Firestone people deserve credit, the Michelin Tire Company cannot be overlooked, for, "as usual," the first seven finishers after Harroun, with the exception of Dawson, were cars with Michelin equipment. Hughes' Mercer, which finished eleventh, also carried Michelins. Belcher's Knox was equipped with Fisks and the Stutz with Goodyear products.

The two finishing Marmons had Dorian rims and Schebler carburetors. The winning car had a Remy magneto, with Bosch spark plugs, and the Dawson car had a Bosch magneto and spark plugs. The second, third and fourth cars had Michelin rims. The Lozier had a Stromberg carburetor and a Bosch magneto, with Rajah spark plugs. The Fiat had a Fiat carburetor and a Bosch magneto and spark plugs, while the Mercedes had a Mercedes carburetor and Bosch magneto and spark plugs. With the exception of the Lozier, which used Oilzum, the first four cars used Monogram lubricant.

De Palma's Simplex had the greatest piston displacement of those that finished in the first dozen, being close to the limit of 600 cubic inches, with 597 cubic inches. Next was Bruce-Brown's Fiat, with 589 cubic inches; then Wishart's Mercedes, with 583 cubic inches. Mulford, 544 and Belcher, 559, Lozier and Knox respectively, had the other cars over 500 cubic inches. The winner, the Harroun Marmon, has 477 cubic inches dis-

placement and was the only six cylinder machine in the race to finish in the money outside of Belcher's Knox. Dawson's four-cylinder Marmon had 495 cubic inches. Of the other cars in the first dozen, Merz's National had 447 cubic inches displacement; Turner's Amplex, 443; Cobe's Jackson, 432, the same as Frayer's Firestone-Columbus; Anderson's Stutz, 390 cubic inches, and Hugh Hughes' Mercer, 300 cubic inches.

The officials at the race were A. R. Parding-ton, referee; R. P. Hooper, president of the A. A. A., honorary referee; Fred J. Wagner, starter; E. J. McShane, assistant starter; Charles P. Root, clerk of course; Charles A. Warner, chief timer; Harry Knepper, assistant timer, and John Cox, in charge of the scoring.

Where the Non-Finishers Stopped

The following is a summary showing the drivers and cars that failed to complete the 500 miles, the distance they traveled and the causes of their withdrawal from the race:

Griener (Amplex), 32.5 miles; accident.
Bragg (Fiat), 78 miles; broken crankshaft.
Chevrolet (Buick), 90 miles; broken crankshaft.
Tetzlaff (Lozier), 120 miles; accident.
Disbrow (Pope-Hartford), 120 miles; accident.
Grant (Alco), 140 miles; burned out bearing.
Basle (Buick), 145 miles; broken crankshaft.
Ellis (Jackson), 165 miles; engine trouble.
Jones (Case), 190 miles; ignition trouble.
Jagersberger (Case), 240 miles; broken steering knuckle.
Knight (Westcott), 240 miles; accident.
Lytle (Apperson), 240 miles; accident.
Aitken (National), 330 miles; broken steering knuckle.
Strang (Case), 380 miles; broken steering arm.
Tower (Jackson).

Completion of Examination and Tests

Those who had studied the entry lists several days before the start noticed when the cars lined up at the tape preparatory to the commencement of the race that several of the entries were missing. The technical examination of the cars and the speed trials in which the entries had to travel at a rate of 75 miles an hour were completed by the Technical Committee on Monday and the result of these tests were given in the following notice sent out by the A. A. A., which also explains the absence of some of the entries:

The following cars have qualified as to speed and as to weight and are eligible to start in tomorrow's race. No post entries will be accepted.
Case, Lewis Strang; Simplex, Ralph De Palma;

Inter-State, Harry Endicott; National, John Aitken; Pope-Hartford, Louis Disbrow; Pope-Hartford, Frank Fox; Westcott, Harry Knight; Case, Joe Jaggersberger; Case, Will Jones; Stutz, Gil Anderson; Mercedes, Spencer Wishart; Amplex, W. H. Turner; Knox, Fred Belcher; Buick, Arthur Chevrolet; Buick, Charley Basle; Fiat, Eddie Hearne; Alco, Harry Grant; National, Charley Merz; National, Howard Wilcox; McFarlan, Bert Adams; Jackson, Fred Ellis; Jackson, Harry Cobe; Jackson, Jack Tower; Cutting, Ernest Delaney; Fiat, D. Bruce-Brown; Lozier, H. Van Gorder; Firestone-Columbus, Lee Frayer; Marmon, Joe Dawson; Marmon "Wasp," Ray Harroun; Lozier, Ralph Mulford; Lozier, Teddy Tetzlaff; Apperson, Herbert Lytle; Mercer, Hughie Hughes; Mercer, Charley Bigelow; Simplex, Ralph Beardsley; Fiat, Caleb Bragg; Velie, Howard Hall; Cole "Wizard," Bill Endicott; Amplex, Arthur Grenier; Benz, Robert Burman; Benz, Billy Knipper.

Two cars named by the Fal Company, of Chicago, were not made ready in time and did not come to the track. The smaller McFarlan "six" was damaged mechanically Saturday. Van Gorder's Lozier was wrecked Saturday, and one Velie and the Cole "thirty" did not make the required seventy-five miles an hour.

The contest board of the American Automobile Association upon recommendation of the Manufacturers' Contest Association Committee rules that tire changes during the progress of the race of May 30, at the Indianapolis Motor Speedway, will be restricted to replenishments at the pits only.

A. R. PARDINGTON,
Official Referee, A. A. A.

500-Mile Race Comparisons

In point of distance the 500-mile Indianapolis race was the longest speed contest. Of nearest approach to the distance was the 415.2 miles Grand Prize race run over an excellent road course at Savannah, Ga., November 12, 1910. This event was won by Bruce-Brown in a Benz car, the time being 353 m. 5 s., an average speed of 70.72 miles per hour. The best time ever made in a Vanderbilt race was 65.1 miles per hour. Harry Grant, in an Alco car made this average in the 1910 event, run over a 278.08-mile course, Oct. 1, 1910. His time for the distance was 255 m. 55 s.

The largest track race was held in this country previous to the Indianapolis Decoration Day event, was a 250-mile contest on a specially constructed track at Atlanta, Ga., Nov. 7, 1909. Horan, driving a Lozier car, was the winner of this contest, his time being 3 h. 26 m. 15 s., an average speed of 72.72 miles per hour. At the opening of the Indianapolis speedway in August, 1909, a 300-

mile race was scheduled, but this event was replete with mishaps and was called off after 235 miles had been covered.

Who the First Three Drivers Are

Ray Harroun

Ray Harroun, the winner of the longest and largest automobile race ever held in this country, was born at Spartansburg, Pa., twenty-seven years ago. He has been prominent in automobile racing during the last three or four years. Harroun has been particularly conspicuous in speedway events, since that form of racing came into vogue in this country with the opening of the Indianapolis Speedway in 1909 and has more victories to his credit on specially constructed tracks than any other driver in the country.

Harroun, who last year was considered the "King of Speedway Drivers," announced early this year that he was through with automobile racing and in the future would devote his time to the sport of aeroplaning. He constructed a machine of his own design and made several short flights, but the lure of the honor and the big prize money in the 500-mile race was too strong for him and he returned to his old love—the automobile.

When it came to picking a winner for the big race, the majority of "dopesters," though they were hard pressed, selected Harroun as the favorite and the manner in which he drove his Marmon "Wasp," with its peculiar construction, in the big race showed that they had used some good judgment. Harroun, who is said to have Arabian blood in his veins, is a staid looking pilot and has a coolness that is characteristic of great automobile race drivers.

The Marmon driver holds many records which he made in 1910 and the official records compiled by the American Automobile Association team with his performances. In the 231 to 300 cu. in. piston displacement, Class B, speedway records, Harroun holds every mark from 10 miles to 100, with the exception of the 20-mile mark. In the speedway records, regardless of class, he held the 100-mile record until Teddy Tetzlaff in a Lozier lowered the mark at Los Angeles this spring. Harroun also holds the hour records up to and including February 1, 1911, with 74 miles for the hour and 148 for the two-hour grind, both made on the Los Angeles board track.

Harroun won more important races than any



HOW THE CROWD BEGAN TO GATHER AS EARLY AS 7 A. M.

other driver on America's speedways last season, adding fifteen firsts to the Marmon records. Among the leading speed events which were won by the intrepid driver are: The Atlanta Speedway Trophy, 200 miles in 3:02:31; the great Two-hour Free-for-all race at Los Angeles in May, in which he covered 148 miles in 120 minutes; the 100-mile 231-300 class, the 50-mile 301-450 class, and the 100-mile 600 class, on the same track, and the 231-300 class, 50-mile race at the Indianapolis Speedway last May. At the conclusion of last season Harroun held the American Speedway records regardless of class from 75 miles in 57:15.79 to 100 miles in 1:16:21.0, and all stock chassis 231-300 class records from 25 to 100 miles. Of the forty-five races he entered last season, Harroun won fifteen firsts, ten seconds and six thirds, a record unequalled by any other racing car driver.

Ralph Mulford

Ralph Mulford, the smiling blonde youngster who won the National Stock Chassis championship with a Lozier car last year at Elgin, and the second driver across the tape

in the big grind on Decoration Day, is twenty-five years old. During the four years that he has been connected with the automobile racing game he has been very prominent in road racing and 24-hour contests, on several occasions being a member of the crew establishing records in the latter events. He was the most consistent driver of the 1910 season and was awarded the Road Championship for that season, through his steady work, having entered all of the big road races of the season, with the exception of Santa Monica, and either winning or finishing in better than fifth place in every event. He won the National Stock Chassis Championship at Elgin; was fifth in the Vanderbilt Cup race; first in the 600 cu. in. piston displacement class at Fairmount Park and second in the free-for-all in the same race; second in the 200-mile Atlanta Trophy race at the Atlanta Speedway and fourth in the Savannah Grand Prize.

He began racing in 1907, and teaming with Harry Michener, won his first race, a twenty-four hour event at Point Breeze track, Philadelphia. Later in the year he finished second

in the twenty-four hour race at Brighton Beach track, and in the same year made perfect scores in two endurance road contests.

In 1908, he broke the world's twenty-four hour record with a Lozier six-cylinder stock car, and three weeks later, in another twenty-four hour race, bettered his former world's record figures by 21 miles. In 1909, he again broke the twenty-four hour record at Brighton Beach, making 1,196 miles, which figures still stand as stock chassis record. Mulford is probably one of the most consistent drivers in the game. While not reckoned in the "dare devil" class, he takes advantage of every opportunity to increase his lead. The steadiness of his running is always a matter of comment, and in every event he reels off lap after lap in time varying but a few seconds.

David L. Bruce-Brown

David L. Bruce-Brown, the winner of third place, is a New York youngster of wealth who took to automobile racing for the sport to be derived from it and who during the five years he has been interested in it to the extent of performing before the public, has moved to the top of the ladder among automobile pilots. Bruce-Brown, who won the 1910 Grand Prize race, was born in New York City on August 13, 1887. The first time he drove a car was in 1906, when he was instructed in handling one owned by his mother. He took to the automobile like the proverbial duck to water and when in 1907, after winning a three-mile open event at the Empire City track, the late Emanuel Cedrino, the driver of Fiat cars, invited him to go to Florida to participate in the amateur races on the beach at Ormond, he jumped at the opportunity.

While Bruce-Brown showed an attachment to automobile racing his family was very much adverse to it, so in March, 1908, he ran away from school and was taken to Florida by Cedrino. His mother heard of his intention to race at the Florida beach and telegraphed Referee Morrell, who was officiating at the meet there, not to allow her son to ride. Morrell refused to allow the youngster to drive, but Bruce-Brown was not to be denied the chance he had traveled to Florida for, and one day when Morrell was not looking his way he jumped into a Fiat car that was being put into readiness for Cedrino and established a world's amateur one-mile straightaway record

of 35 3-5 seconds. The same year he won the Shingle Hill climb in a Fiat.

In March, 1909, he again went to Florida and this time drove the Benz with which Hemery had finished second in the first Grand Prize race at Savannah. He broke his own amateur record, bringing the mark down to 33 seconds, won the Sir Thomas Dewar Cup for the fastest one mile, regardless of class, and also broke the 10-mile record, rolling start. The same year he won the one and two mile straightaway time trials at Jamaica, Long Island. During the same year he continued to drive the Hemery Benz, and won a number of hill climbs, including Fort George, Giant's Despair and Shingle Hill. Bruce-Brown also drove a Benz in the 1910 Vanderbilt and was running on his thirteenth lap when the race was stopped. At the Grand Prize he drove a magnificent race and won from Victor Hemery by the narrow margin of 1.42 seconds after a 415.2-mile contest. Shortly after the Grand Prize race, in which he drove a Benz, he announced that he was to handle the wheel of a Fiat car in the future and the 500-mile race was really the first contest he drove a car of that make in since his early days at Florida.

Burman Does Some Record Breaking

The thousands of persons who had traveled to Indianapolis to witness the big race did not have to wait until Decoration Day to see some sensational driving. On Monday, May 29, "Speed King" Bob Burman again demonstrated that his title was well placed when he proceeded to shatter what remained of Barney Oldfield's records and he did it in a way that convinced the spectators that he has no peer at short distance racing. With the Blitzen Benz, the same car used by Oldfield when he set up the marks on May 30, 1910, Burman made new speedway records for a mile, kilometer, half-mile and quarter-mile, all from a flying start. The quarter-mile is a new mark, but the times made at the other distances supercedes those made by Oldfield.

Burman's Records

1 mile flying start.....	35.35
1 kilometer flying start.....	21.40
Half-mile flying.....	16.83
Quarter-mile flying start.....	08.16

Oldfield's Records

1 mile flying start.....	35.63
1 kilometer flying start.....	21.45
Half-mile flying start.....	17.00

Savannah Gets Grand Prize and Vanderbilt

Savannah, the scene of the races for the gold cup of the Automobile Club of America in 1908 and 1910, will not only have the running of the Grand Prize race this year but will also be the scene of the erstwhile Long Island classic, the Vanderbilt Cup race. This was decided at a joint meeting of the representatives of the Savannah Automobile Club and the officials of the Motor Cups Holding Company, the association controlling the running of these two big events, held in New York on May 29.

The announcement that the Vanderbilt Cup race would be held on Southern soil this year came as a great surprise to the followers of the sport of automobile racing for it was understood that William K. Vanderbilt, Jr., the donor of the cup bearing that name and the originator of the famous races on Long Island, was determined that further races for his trophy would be contested where the previous ones had been. Sometime ago when the Savannah people declared their intention of applying for both the Grand Prize and the Vanderbilt races they were not taken seriously as far as the Vanderbilt was concerned.

The fact that the Contest Board of the American Automobile Association this year adopted a rule prohibiting the running of road races without military protection and that it was recognized that it would be next to impossible to have the militia called out to guard

a course in New York State might have had considerable to do with the awarding of the race to Savannah.

The meeting of the Savannah delegation and the Motor Cups Holding Company officials occurred at the A. C. A., the Southerners present being Harvey Granger, president of the Savannah A. C.; Frank C. Battey, former president; George W. Tiedemann, Mayor of Savannah, who gave the trophy for the light car race last year; Judge A. V. Moore, Oliver T. Bacon and Arthur W. Solomon. The members of the Motor Cups Holding Company present were Henry Sanderson, president of the A. C. A.; William K. Vanderbilt, Jr., Dave Hennen Morris and H. B. Anderson. Charles E. Forsdick, secretary of the A. C. A., acted as secretary of the meeting. The conference lasted from about 9 o'clock until shortly after midnight and at its completion the following announcement was made:

The Motor Cups Holding Company has agreed with the Savannah Automobile Club that the Grand Prize and Vanderbilt Cup races shall be held in Savannah in November, satisfactory arrangements having been made.

With the granting of the Vanderbilt and Grand Prize races to Savannah, that city will be the scene of the most pretentious three-day automobile meet ever held in the country. The light car races are scheduled to be held at Savannah on November 3.

New Jersey Withdraws Eight-day Licenses

Automobile owners of Pennsylvania and Delaware are to be denied the eight-day license privilege in New Jersey commencing on June 1, because those States have refused to grant reciprocal rights to New Jersey motorists. If Pennsylvania and Delaware motorists wish to use New Jersey's highways for touring purposes in the future a regular yearly license will have to be secured. Maryland has acted in favor of granting a special touring license to New Jersey automobilists and there will be no revocation as to that State. As yet the matter concerning New York and Connecticut has not been decided, pending the action of New York officials. The above was announced by J. B. R. Smith, State Commis-

sioner of Motor Vehicles in New Jersey on May 25.

Attorney General Carmody, of New York, has given an opinion to Secretary of State Lazansky confirming the opinion given by Attorney General O'Malley in which he held that the Secretary of State has no power under the Callan automobile law to issue temporary licenses to non-resident automobilists. Secretary Lazansky has written to Commissioner Smith suggesting the calling of a conference of representatives of various States to inaugurate a movement for uniform legislation, so that a resident of a State having complied with the laws of that State may enter another State without any formality or fee.

In speaking of the withdrawal of the eight-day-privileges from Pennsylvania and Delaware motorists Commissioner Smith declared that they had only themselves to blame as they were wholly responsible for existing conditions. He said:

I have endeavored for nearly a year to secure for New Jersey residents touring in Pennsylvania privileges, at least equal to those which New Jersey extended to Pennsylvania residents, but have always been met with the statement that unless New Jersey would give Pennsylvania residents absolutely free privileges, they would not extend any courtesies to New Jersey residents. In addition, they have been offensively active in securing arrests of New Jersey motorists on technical grounds, and innumerable petty persecutions had been indulged in, with the purpose, freely expressed, of annoying Jerseyemen, and of coercing them into enacting laws dictated by non-residents.

While conditions of a somewhat similar nature have existed in other States, in no State has there appeared to be the systematic and orderly scheme of persecution that has existed in Pennsylvania, and its origin has always been easy to trace.

It is only fair to say that Pennsylvania motorists receive much more from New Jersey than New Jersey motorists receive from Pennsylvania. Whenever Pennsylvania will undertake to treat New Jersey motorists with either the same consideration with which they treat motorists from

other States, or with the consideration which New Jersey has heretofore shown to Pennsylvania motorists, the department will gladly resume its former position.

The discretionary power vested in the department clearly demonstrates that the spirit and the object of our eight-day license law were for the purpose of affording the department an opportunity within the limitations prescribed of extending reciprocal courtesies to tourists, and in that spirit the law will be enforced.

With regard to New York and Massachusetts, it is only fair to say that while their attitude has been in many respects similar to that of Pennsylvania, they have lately shown a disposition to effect reciprocal relations with New Jersey, and I am very hopeful that the reciprocal spirit of our limited license law will shortly be recognized by these States.

I ought to say that this whole trouble has been brought about by a failure on the part of other States to understand the meaning of reciprocity. They have confused the term with that of retaliation. Reciprocity means giving as well as receiving. New Jersey not only believes in reciprocity, but has always given to non-resident motorists much more than its motorists have received from other States. Retaliation means an offensive act either as a punishment or to compel the performance of an unwilling act by another. It means coercion. So far as I am concerned New Jersey motorists will not be coerced.

Entries Close for Glidden Tour

Entries for the eighth annual Glidden tour, which this year is to be known as the "Glidden Reciprocity Tour" and will be from Washington, D. C., to Ottawa, Can., June 21-29, closed on Thursday, June 1. Unusual interest has been taken in the tour this year by officials in towns and cities along the proposed route. So many of these have asked to entertain the tourists in various ways that it will be impossible for them to accept all of the hospitalities offered, owing to the long schedules each day. The mayors of several cities have accepted invitations to join the tour and ride as guests between various points, and several Governors have also stated their desire to welcome the caravan as they pass through different capitals, such as Baltimore, Md.; Hartford, Conn.; Boston, Mass.; Montpelier, Vt.; Montreal, as well as the starting and finishing points, Washington, D. C., and Ottawa. At the latter city, Governor General Grey, of the Dominion of Canada, and Mayor Hopewell, of Ottawa, will extend the greeting.

Upon arriving at the finish line in Ottawa, Commissioner Herbert W. Baker, of the Industrial Bureau there, will see that everything possible is done to make the occasion a memorable one for the motorists. He writes that he will arrange for all who desire to drive to the famous Chaudiere Falls, which are inside the city limits. These falls are capable of generating more than twice the amount of power available at Niagara and form the great natural source of power for Ottawa's thriving industries. A total of 959,000 horsepower is available from the Chaudiere and other water falls near the city.

W. W. Brown, president of the Automobile Club of Vermont, in a letter to Chairman Butler, writes that the Board of Trade of Springfield, Vt., at a meeting elected a committee to provide entertainment for the tourists when they arrive in that city, which will be an overnight stop. There will be a band concert in the evening and each tourist will receive a handsome souvenir of the town. The A. C.

V. will extend to the tourists a special invitation to be guests of the club.

As announced a few days ago the pace-making car for the tourists will be a Cunningham machine. This will lead the procession over the route each day and will carry Chairman S. M. Butler; David Beecroft, referee; F. E. Edwards, chairman of the Technical Committee, and also Charles J. Glidden himself. It has been the custom of the donor of the principal trophy to ride in the tour each year, in honorary capacity with the other officials. In order to insure cars keeping within the speed limit, no car either contesting or non-contesting, will be permitted to pass the pacemaker, under penalty of disqualification.

Fire Compels Change in Plans

Frederick Thompson, proprietor of Luna Park, during the fire which destroyed Dreamland, most generously came to the rescue of New York's little ones and offered Luna Park for the Automobile Outing on June 7. James Young, who will cater for Benjamin Briscoe, president of the United States Motor Company, whose guests the children are to be, will serve the lunch in a large tent which will accommodate 5,000. Complete arrangements are now being made by Acting Secretary Stidham so that there will be no change in the proceedings as now planned.

All Ready for Orphans' Day

Everything is in readiness for the Long Island Automobile Club's annual orphans' day outing, which is scheduled for June 6, and if the weather man does his part the affair should prove very successful. The members of the club have responded with enthusiasm to the request for cars, and ample have been secured. Contributions have also come in liberally, and many good things are in store for these little unfortunates on this day of days.

Luncheon will be served them at Feltman Brothers, and the rest of the day will be spent in seeing the sights. The cars will go direct from the different institutions to Coney Island, and all will meet there. The return trip will start at 4 P. M. It is expected that about 1,200 children will be given the outing, and they will have the time of their lives.

The following are some of the institutions

that will contribute almost their full quota: Ridgewood Day Nursery, Brooklyn Orphan Asylum, Hebrew Orphan Asylum, Otilie Orphan Asylum, St. John's Home, Church Charity Foundation, St. Vincent's Home for Boys, and St. Giles.

The L. I. A. C. has another outing in June, the date of which is yet to be fixed, for the old people. Chairman H. G. Andrews requests all members wishing to contribute cars to send in their names to the club at an early date. This outing will consist merely of a run in the afternoon of a couple of hours or so around the Borough of Brooklyn.

Fix Routes for Big Aeroplane Race

Arrangements are nearing completion for the international aeroplane flight from Paris to London, which is scheduled to start from the former city on June 18. The routes have been selected and are as follows: Paris to Rheims, Rheims to Charleville, Charleville to Liege, Liege to Spa, Spa to Utrecht, Utrecht to Brussels, Brussels to Roubaix, Roubaix to London, and, finally, London to Paris, via Boulogne. The prize lists stands at \$85,500.

The contest is open to all qualified air-men, who may use more than one machine of any one make. Entries closed on May 30. Late entries, with double entry fee, will be received by the *Paris Journal* alone until midnight on June 8. The sum of \$100 will be returned to competitors who cross the starting line in flight, and \$100 on completion of the first section of the race within four days.

The *Journal* will, as far as possible, have the course of each section marked out by visible signals.

Sproul Bill in Hands of Governor

The Sproul Main Highway bill, which provides for a system of main highways and reorganization of the State Highway Department of Pennsylvania was sent to Governor Tener last week. The two houses of the Legislature concurred in the report of the Conference Committee and it now only needs the signature of the Governor to become a law. Under the provision of the bill, the Governor is to name a highway commissioner, two deputies and a full force of employes. The taking over of the route will begin at once and as soon as possible highways will be constructed.

Denver's Big Decoration Day Race

While all the Eastern motorists were interested in the 500-mile race at Indianapolis, the automobilists in the other end of the country were devoting their attention to the big race meet promoted by the Denver Motor Club at the new speedway at Sable on Decoration Day. In the main event, a 200-mile race, McMillan driving a National car, was returned a winner in 3 hours 30 minutes 30 seconds. Thornley in a Ford was second, and Jackson in a Michigan was third. In the 20-mile non-stock race Ford in an Overland was the winner in 27:02, with Dawson in another Overland second and Fitzpatrick in a Stearns third. During the preliminary practice for the big race an accident occurred which resulted fatally for Robert W. Bean, of Detroit, Mich., who was crushed under one of the cars when it overturned. Otto E. Manglitz, a mecanicien, was severely injured, while several others were bruised. Two cars left the track at the same point within a few minutes of each other.

Good Field in Economy Contest

The Chicago Motor Club started the competition season on May 25 with a gasoline economy contest from Chicago to Milwaukee and return, and twenty-three cars participated. All of the cars that started completed the 186.3 mile trip. Brush, Moline, Grout and Oldsmobile cars were the winners in the various classes into which the contesting cars were divided.

The Gregory Cup, offered for the car covering the greatest distance with the smallest consumption of gasoline, was won by Taylor, driver of the Brush that was successful in the free-for-all class. He averaged 31 miles to the gallon. In this class there was a close struggle between the Hupmobile, driven by Findersin, and the Ford, with Van Sicklen at the wheel, for second and third honors.

Dan Boone, at the wheel of a Moline, won in the touring car division, under the formula based on weight and other factors. He was closely followed by Emery, the winner of last year's contest, in a Cunningham. H. E. Halbert, in a Grout, was the winner in the roadster class. The Oldsmobile, in the development class, won with a Barry Ivor carburetor with 12 gallons and 86 ounces, its weight being 4,470 pounds, while the Overland, with a To-

ledo-Petore carburetor, and the Chalmers, burning kerosene fuel in a Rayfield carburetor, finished second and third. A Rambler, with a Rayfield, and a Corbin, with a Vortex, also competed. The following is a summary of the performance, according to classes:

Free-for-all

Car	Driver	Gasolene consumed	
		Gals.	Ounces
Brush.....	Taylor	5	59
Hupmobile.....	Findersin	5	84¾
Ford.....	Van Sicklen	5	92
Ford.....	Hay	7	32
Cameron.....	Gordon	7	64
Buick.....	Hall	13	56
Ford.....	Lanahan	13	101½

Stock Cars, Class 1, Touring Car Division

Car	Driver	Fuel by ounces	Formulae
			Weight av.
Moline.....	Boone	1,272	3,650 2.82
Cunningham.....	Emery	1,920	5,390 2.80
Staver.....	Knudson	1,466	3,690 2.51
Halladay.....	Johnson	1,836	3,980 2.16

Stock Car, Class 2, Roadster and Toy Tonneau

Car	Driver	Fuel by ounces	Formulae
			Weight av.
Grout.....			
Moline.....	Halbert	1,327	4,030 3.00
Midland.....	Salisbury	1,280	3,500 2.73
Midland.....	Pope	1,523	3,650 2.39
Falcar.....		1,752	3,950 2.25
Warren-Detroit..	Morehart	1,558	3,030 1.94

Preparing for Shingle Hill Climb

The Shingle Hill climb which this year is to be held under the joint auspices of the Yale and the New Haven Automobile Clubs, is scheduled for June 10, and final arrangements are now being made for the event. Gangs of workmen are at work putting the course in West Haven into condition for the onslaught of the automobiles. Many rocks and trees have been removed and the turns have been banked to make higher speed possible. Entries have been coming in at the office of the Contest Committee, 113 Church Street, New Haven, Conn., at a great rate since the issuance of the entry blanks and a creditable number of starters is expected.

State Board Offers Prize

The Wisconsin State Board of Agriculture, which is the managing board of the annual State Fair in Milwaukee in September, has voted to offer \$2,500 in purses for a motor car race meet on the last day of the fair, which will be Saturday, September 16.

Vedrine Wins Paris-Madrid Flight

Pierre Vedrine, the daring French aviator, won the Paris-Madrid aeroplane race on May 26, when he completed the last stage of the dangerous 766 mile journey from the French to the Spanish capital. Of the three men who left San Sebastian, the control previous to Madrid, Vedrine was the only one to arrive at Madrid, the others being compelled to drop out of the race on this, the most dangerous stage. Vedrine was fairly idolized when he descended at the aviation field of Getafe, a suburb of Madrid, and was enthusiastically received by King Alfonso, who decorated him with the cross of the order of Alfonso XII., which is reserved for persons who have distinguished themselves in the arts and sciences.

In making his hazardous trip Vedrine was compelled to cross desolate stretches of land, the Bay of Biscay and the Pyrenees Mountains, with their dangerous air currents. While in the mountainous section between San Sebastian and Madrid, he and Gilbert, another aviator in the race, were savagely attacked by eagles and it was with difficulty that they drove the enraged birds off. Gilbert fired several shots from a revolver at the eagle that attacked him, but declared he failed to hit it. Vedrine was attacked while he was passing over the Sierra de Guadarrama, a chain of mountains in Castile, one of the peaks of which attains an elevation of 7,000 feet.

The official time for Vedrine's 766 mile journey through the air was given as 37 hours 27 minutes, which includes a number of delays in transit due to making repairs, waits for fogs to lift, etc. His actual time of flight was 12 hours 18 minutes, which is at the rate of more than sixty miles an hour. In last week's issue of AUTOMOBILE TOPICS an account was given of the first two stages of the flight, taking the aviators as far as San Sebastian, on May 23. On May 25 the start of the final and most dangerous stage of the race was made from San Sebastian. As was the case on all previous days of the race Vedrine flew the farthest before the end of the day, but he failed to complete the 267 miles trip to Madrid. He was compelled to descend at Burgos to make repairs to his motor. He had covered 121 miles from San Sebastian. Gilbert, who was the first to ascend at San Sebastian, after completing the worst part of the journey to

the Spanish capital, had to descend at Vitoria, 59 miles from the start, where he spent the night. Garros, the other participant, had difficulty with his motor before leaving San Sebastian and asked to replace it with another. He was refused permission and after making repairs soared in the direction of Madrid. He did not travel far, however, for he was compelled to land at Urcibil, 12 miles from San Sebastian. He later in the day announced his withdrawal from the race. Gilbert continued as far as Burgos and when a heavy rain and wind storm arose he decided to quit the race. He covered 100 miles from San Sebastian.

On May 26 Vedrine completed the last stage of the race, a flight of 146 miles from Burgos to the aviation field at Getafe, in two hours and forty-five minutes. He arrived at Madrid shortly after eight o'clock in the morning and he was so fatigued after his long journey in the upper regions, where at one time he would be scorched by the blazing sun and the next chilled to the marrow and drenched to the skin by the heavy fog that settled over the mountain tops, that he threw himself upon the ground as soon as he stepped out of his machine. After spending several hours in a hospital he was up and around again and was received by King Alfonso.

Vedrine left the suburbs of Burgos in ideal weather and flew over Aranda de Duero, forty-eight miles south of Burgos, at a good height and at a great speed.

At Bocequillas he faced the task of crossing the dreaded Somosierra Pass, which is 4,900 feet high. Higher and higher he climbed until he had attained an altitude of 6,500 feet. Then straight as an arrow he flew over the crags and snow-capped peaks until he reached the immense plains of San Augustin.

When he had left the mountain ranges behind him Vedrine dropped closer to the earth and finally reached the aerodrome at Getafe.

How Vedrine won the race:

The Paris-to-Madrid race was begun on May 21, under the auspices of the Petit Parisien, which offered a prize of \$20,000. In addition the Spanish Aero Club gave prizes amounting to \$10,000 and King Alfonso offered a special prize for the fastest speed over the Spanish section. The journey was divided into three stages—Paris to Angouleme, Angouleme to St. Sebastian and

St. Sebastian to Madrid, a total distance of about seven hundred and sixty-six miles.

Twenty machines were entered for the race, but as a result of the tragic accident when the start was made from the Issy-les-Moulineaux aviation field, which resulted in the death of Mons. Berteaux, the French Minister of War, and in serious injury to Mons. Monis, the Premier, all but three of the aviators withdrew. Of these three Vedrine was the favorite. He covered the first stage of the contest, 297 miles, in three hours and thirty-nine minutes, making a new record for a long distance cross country flight.

The running time of the Southern Express between Paris and Angouleme was beaten by

Vedrine by one hour and thirty-nine minutes. On the second stage, between Angouleme and St. Sebastian, Vedrine had a narrow escape from death. One of the planes of his machine grazed the peak of a huge rock near the Spanish town of Fuenterrabia. Although the plane was bent, Vedrine continued his flight and safely reached St. Sebastian. The distance of the second leg of the contest was about two hundred miles.

The third stage of the journey, St. Sebastian to Madrid, was the most difficult of the entire flight. The 266 miles of the route was almost entirely over desolate ranges, the crags varying from 1,000 to 5,000 feet in height. A fall meant certain death, and it was practically impossible to make a fresh start in the mountainous country.

Garros Leads in French-Italian Air Race

All Europe is now interested in the second of the great aeroplane flights scheduled for this season—that from Paris to Rome to Turin, a distance of 1,300 miles—which was started under perfect conditions on May 28. Owing to the tragic accidents attending the start of the recent Paris-Madrid race, when the French Minister of War was killed and several other prominent French officials injured, the participants in this contest, for which prizes aggregating \$100,000 have been offered, were sent on their cross-country journey from the aviation field at Buc, several miles from Paris and not as convenient to the general public as Issy les Moulineaux, where the first race commenced.

The weather was ideal on the starting day and twelve of the twenty-one entrants showed up at the starting point. The aviators were sent upon their long journey in quick succession, commencing at 6 o'clock in the morning, Roland Garros, who was conspicuous in the Paris-Madrid flight, being the first to leave. Andre Beaumont was the second to leave and he quickly overhauled Garros and was the first to register at Dijon, the initial recording station on the long journey. The two continued in this order throughout the day, reporting at Lyons and finally landing at Avignon, where they stayed for the night. They covered the 645 kilometers (401 miles) from Buc to Avignon in 12 hours and 45 minutes and 13 hours and 35 minutes, respectively. The first stage of the journey will be completed when they reach Nice, 137 miles from Avignon.

The other competitors did not make much progress owing to mishaps of various kinds.

Henri Molla, representing France, and the German aviator, Frey, made the second best showing after Garros and Beaumont, landing at Dijon on the evening of May 28. Charles Weymann, the American aviator, was compelled to land at Troyes with a broken propeller after having an unusually hard run of luck.

On the second day another aviator made a start from Buc and one withdrew from the contest. The former was Landron and the latter was Gaznet, who abandoned the contest when he reached Dijon, the first compulsory stop. Shortly after starting from Avignon, both Garros and Beaumont met with difficulties that necessitated their landing and losing time. Garros fell between Mellemor and Penas and lost considerable time making repairs to his machine which was badly smashed. Beaumont stopped at Brignoles with motor trouble. Heavy rainstorms delayed the other competitors, among whom are Concau, Frey, Weymann, Kimmerlin, Molla and Vindart.

Garros again took the lead in the race on May 30, when he was the first to arrive at Pisa. Beaumont was compelled to stop at Alasio, about midway between Nice and Genoa. All along the route of his flight Garros was enthusiastically received and when he made a stop at Genoa it was with difficulty that he got started again, so great was the demonstration afforded him. Several of the other aviators made progress during the day, but none were within striking distance of Garros, who is flying in an American machine. The American aviator, Weymann, retired from the race as the result of an accident at Celles-sur Ource, in the French depart-

ment of Aube. Frey, the German representative, arrived at Genoa at 6 o'clock on May 30. Kimmerling had difficulty at Brignoles and had to send to Lyons for two machines. Manissero's machine was capsized by an air flurry at Coligny, a small town in the French Department of Ain, but the aviator was not hurt. Vidart arrived at Avignon after going off the course. Bathiat, who started on this day, was again stopped before reaching the first control at Dijon. He descended at Frolois. Italian battleships were scattered along the coast of Italy from Genoa to the French frontier and to Pisa for the purpose of assisting the aviators if necessary.

The race was organized by the Paris Petit Parisien, and the prizes aggregate more than \$100,000. The second stage of the journey is from Nice to Rome, the recording stations being Genoa and Pisa, and the third stage is from Rome to Turin, the official stopping places being Florence and Bologna. The total distance is a little more than 1,300 miles, and the competitors have until June 15 to accomplish the distance.

Talk of Forming Tri-State Organization

A tri-State automobile association, composed of motor clubs in Pennsylvania, Delaware and Maryland, the chief object of which is to promote the construction and maintenance of a first-class public improved road between Philadelphia, Wilmington, Baltimore and Washington, is proposed by officers of the Delaware Automobile Association, having its headquarters in Wilmington; the Maryland Automobile Club, having its headquarters in Baltimore, and representatives of clubs in Philadelphia, and its consummation, from what can be learned, is likely to materialize in a very short time.

The need of closer co-operation of the automobile interests in the three States and the four cities mentioned above than is now the case is apparent to those in particular who have occasion to use the highways between Philadelphia and Baltimore, and as a result of a conference at the recent national convention of automobile clubs, which was attended by representatives from the three States, the latter discussed the matter and the seed was there sown which is likely to bear fruit before long.

As a result of this conference there have

been two informal meetings since that time, attended by all three interests, the first being held in Baltimore several weeks ago and the second in Wilmington on May 25, and at the latter meeting it was proposed by the Wilmington and Philadelphia representatives in attendance that the Maryland club issue a call to the clubs in Delaware and Pennsylvania, requesting them to send delegates to a convention to be held in Maryland to consider the matter of forming a tri-State association. The Maryland club men looked upon the project with favor and it is expected that a call will be issued shortly.

Besides the matter of better roads, another object of the proposed association would be a united effort to secure uniform laws in the three States and also uniform regulations for the enforcement of those laws. It would also promote sociability among the automobile club men of the three States.

York County (Pa.) Club Reorganized

At a meeting held last week a reorganization of the Automobile Association of York County, Pa., was effected, officers being elected as follows: President, Paul J. Gilbert; first vice-president, E. F. Baker; second vice-president, Harry Stauffer; secretary, Stuart B. Lafean; treasurer, Dr. E. W. Brickley. Arrangements are being made by the club for a number of sociability runs to be held during the coming summer and fall.

To Build the Central Highway

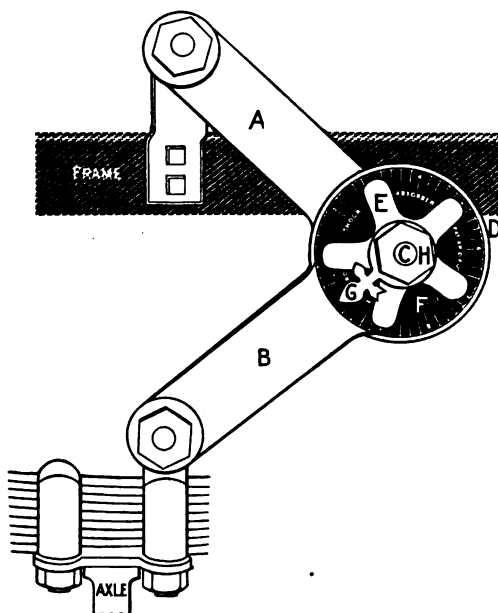
At the recent session of the North Carolina Legislature provision was made for the building of what is to be known as the Central Highway, to extend from Beaufort, a port on the Atlantic Ocean at the southern end of the inland waterway, as near in a straight line as possible to the Tennessee boundary, not far from Hot Springs, N. C.

The line will traverse nineteen counties and about sixty-five cities and towns. The State, counties, townships and towns will participate in the work of construction, and it is expected, according to H. B. Varner, president of the Central Highway Association, to have the people along the entire line devote a week to the building of the road, material and implements having previously been provided.

Details of Various Shock Absorbing Devices

As the easy-riding qualities of a car depend very largely on its spring action, any attachment or device that will properly control this action is a very valuable adjunct to the accessory equipment. Most springs perform their duties in a satisfactory manner where the conditions are favorable, but there are a great many roads that impose too severely upon the regular springs, and some-

jars and jolts in automobiles, is the Truffault-Hartford shock absorber, made by the Hartford Suspension Co., of Jersey City, N. J. The Truffault-Hartford is made in sizes to fit any car, prices ranging from \$15, per set of

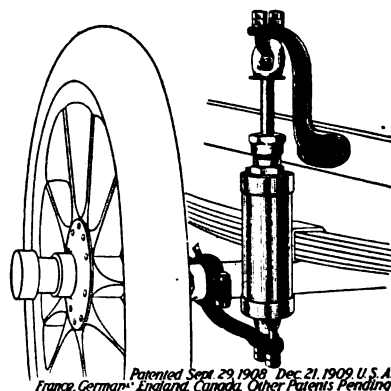


TRUFFAULT-HARTFORD

thing in the way of a relieving device is advisable.

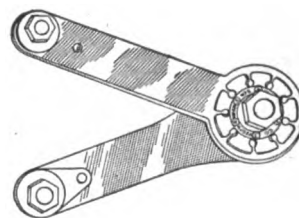
There are various forms of shock absorbers on the market, designed to control the action of the springs in such a manner as to prevent their violent expansion and contraction. Excessive oscillation is thus eliminated, with the result that there is less racking of the car's parts, a less amount of wear and tear, less bouncing of the wheels and longer life to the tires. With equipment of this kind the car is generally capable of greater speed, and a rough condition of the road will not rob it of its easy-riding qualities. The following matter has been prepared to assist the readers of *AUTOMOBILE TOPICS* in becoming more familiar with the various shock eliminators now on the market:

One of the best known and most successful of all devices designed for the eliminating of



THE HYDRAULIC FLENTJE

four, for the Juniorette model, to \$60, per set of four, for the Standard model, which is for cars weighing over 2,500 pounds. The product of this concern has been on the market for several years, and to-day it is standard equipment on cars turned out by a great many of the better known automobile concerns. The accompanying outline illustration gives an excellent idea of the simplicity of the Truffault-Hartford. The arm A, which is attached to the frame, works between two members of arm B, giving a straight up and down movement. The arm A carries a flanged cover, D, forming a cup-like space on each side. In these spaces are placed friction plates, which

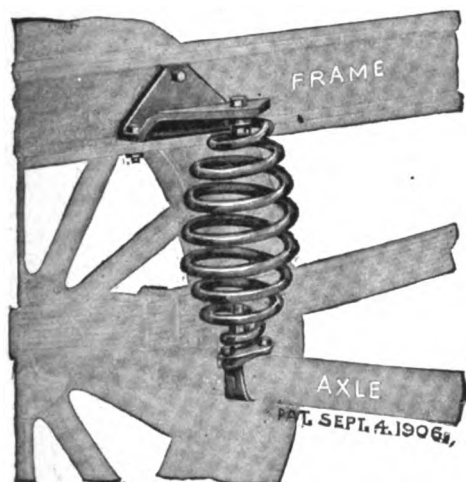


THE WESTEN SHOCK ABSORBER

are self-lubricating. Each friction plate is covered by a single flanged steel disc or shallow cup, fitting snugly on either side to the flanged cover attached to arm A, protecting the friction plates from dirt and water. By screwing sufficiently on adjusting nut, H, any

desired degree of friction may be obtained. All working parts of the Truffault-Hartford are adjustable, so that correct tension for any car can be secured.

An apparatus working on the hydraulic principle is the shock preventer, manufactured



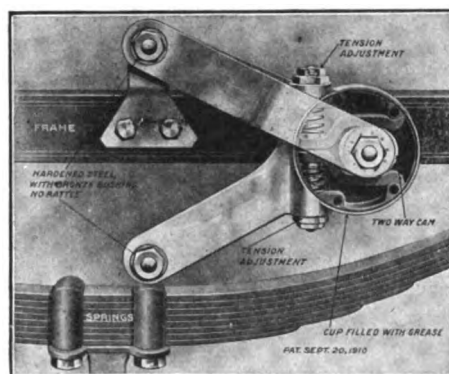
SAGER'S EQUALIZING SPRINGS

by Ernest Flentje, whose factory is at Cambridge, Mass. The Flentje shock preventers are claimed to automatically meet all varying road conditions. On paved streets or fairly smooth roads they do not interfere with the spring action or lessen in any way the resiliency of the springs, but as soon as any exceptional violence is applied by excessive bumps, they operate automatically to the degree necessary to subdue the downward action and prevent any upward snap. The principle of the Flentje is very simple. If in a cylinder full of liquid there is a plunger perforated with small holes, the plunger can be moved up and down gently with very little effort, the liquid readily passing through the holes from one side to the other. The moment an attempt is made to move the plunger violently, however, the resistance is found to be greatly increased, for the liquid is being forced through the holes faster than it would naturally flow. It is on this principle that the Flentje shock preventer works. This device is of very sturdy construction, and the cylinder is filled with a glycerine mixture that has been thoroughly tested to withstand the most extreme changes of temperature. The price of the Flentje is \$100 per set of four, for the Standard size, attached.

The Westen Manufacturing Co., of New

ark, N. J., make a shock absorber offering two distinct degrees of frictional retardation. In other words they automatically adjust themselves in proportion to the degree of vibration they have to control or modify. There is a moderate degree frictional retardation to control the slight vibration, and the greater degree of frictional retardation to control the greater vibration. The Westen is provided with an indicating dial and index, enabling adjustments to be made with accuracy. In making these adjustments the weight of the car is all that is necessary to be considered. The Westen is made in three sizes, \$25, per set of four, being the price of type one; \$40, per set of four, for type two, and \$60, per set of four, for type three.

Two types of shock eliminating devices are manufactured by the J. H. Sager Co., of Rochester, N. Y. One of these is what is known as the Sager Equalizing Springs, and the other the Peerless Shock Absorber, both of which are here illustrated. The spring apparatus is very simple in construction, and is something that requires absolutely no attention when it has been once attached. It consists of a very strong coiled spring which is rather wide and flexible at the center with conical ends which stiffen very quickly when the spring is in action. The equalizing springs

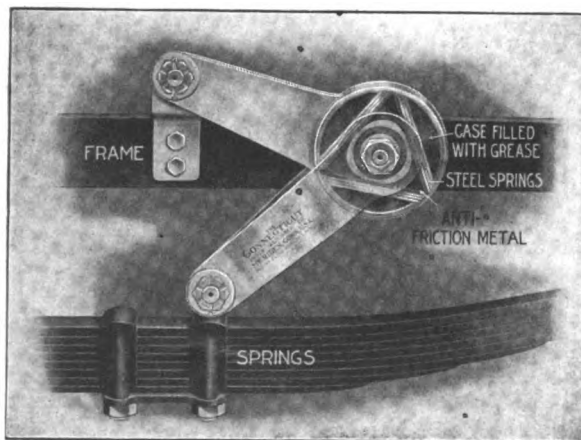


PEERLESS SHOCK ABSORBER

sell for \$30, per set of four. This concern's Peerless shock absorber is a little more expensive, the price being \$40 per set of four. This instrument is of the conventional "scissors" type, employing two arms, one of which is attached to the frame, while the other is attached to the axle or running gear. The lower arm is integral with a grease-filled case,

while the lower arm is divided and telescopes the case where it actuates a two-throw cam. The cam is located between two hardened levers fulcromed at one end, and resting on two coil springs at the opposite ends. The outward ends of these springs rest on adjustable stops. As the cam is rotated in either direction it opens the levers and compresses the springs, and the further the cam is rotated the greater the compression and resistance. More or less resistance may be obtained by screwing up or down the adjustable stops.

A comparatively new device for controlling the excessive action of automobile springs is the product of the Connecticut Shock Absorber Co., Inc., of Meriden, Conn. The operating parts of this shock absorber consist of a three-face cam, working between three sets of springs of suitable tension to give the necessary resistance for the different weights of cars. These springs are located in a triangular position inside the retaining shell or cup with a piece of special bone fibre inserted between the face of the cam and the spring so as to eliminate any possible wear. The case, which is made grease tight, is packed with non-fluid oil. This surrounds the cam and springs,

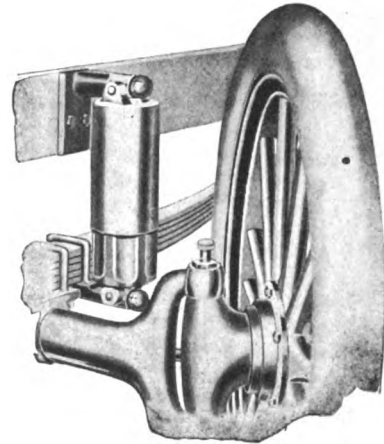


CONNECTICUT CO.'S PRODUCT

keeping them well lubricated at all times. The construction is such that all of the strain comes on the cams, and the bearings for the cam hubs in the shell of the absorber receive practically no wear. \$50 is the price of the Connecticut, per set of four, with all fittings.

An instrument constructed on a principle similar to that of the pneumatic door closer,

is the Air Shock Absorber, made by the Kilgore Mfg. Co., of Boston, Mass. For cars up to 3,000 pounds a set of Kilgore's is sold for \$75, a slightly larger set retailing for \$85, and for cars of 3,200 pounds and over the price is \$95. The accompanying illustration gives a good idea of the Kilgore instrument, which consists of a piston operating in conjunction with a cylinder in which the air is



AIR-OPERATED KILGORE

compressed. Universal joints are fitted at either end of the device to compensate for any irregular sway of the car on rough roads, so that the cushion is always in line of the piston stroke.

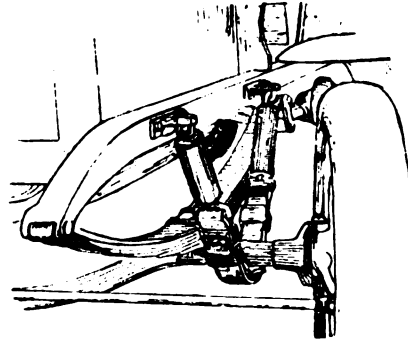
A spring controlling apparatus of foreign construction is the "Pater Noster," handled in this country by Herz & Co., of New York. Two distinctly separate friction devices are contained in this absorber. The first one is situated concentric to the central arbor and consists of a brake band encircling a brake cylinder. Between the brake cylinder and the central supporting arbor a roller clutch is interposed which allows the central arbor and the joint lever fastened to the same to be moved freely in one direction. The arbor is forced, however, to engage the friction of the brake band when moved in the other direction. It is claimed that the first friction device serves for the complete absorption of the recoil. The second friction device consists of a fibre washer interposed between two friction surfaces. One friction surface is offered by the bottom of the shell enclosing the roller clutch, and the other side of the fibre washer is pressed against the surface of the bronze housing. One complete set of four, with ball-

joints, universal joints and all connections, costs \$60.

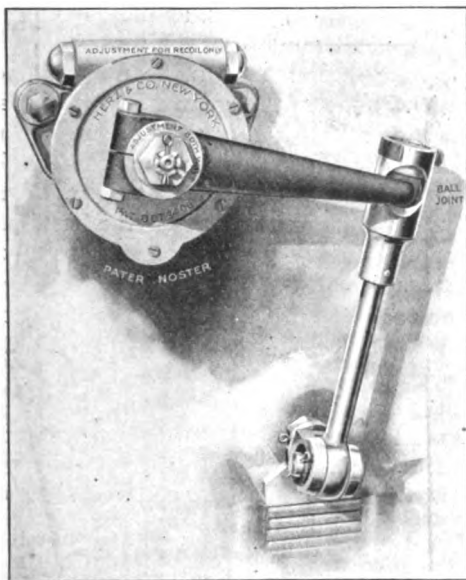
The Skinner & Skinner Co., of Chicago, make what they call a "Recoil Check." This is a spring device which clamps to the frame, used in conjunction with a strap which is fastened to the axle. These checks can be attached to any car very quickly without the necessity of drilling holes, and they are claimed to be sufficiently strong to stand the wear and tear of any road encountered. They sell at \$20 per set, for cars weighing under 3,000 pounds, and \$25 per set for cars over 3,000 pounds.

A very simple and inexpensive device is the "Air Cushion" made by the Mellen-Edwards

the regular leaf spring and the body of the car. These springs do not act in any way if the car is only partly loaded or if smooth roads are being traversed, but if a full load is being carried, or rough roads are encountered, the springs act as buffers and help to absorb the shock. The price of the "Super-Coils" is \$3 each.



MELLEN-EDWARDS "AIR CUSHION"



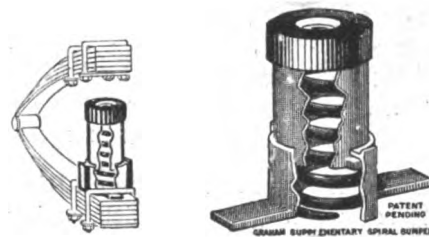
"PATER NOSTER," HANDLED BY HERZ & CO.

Co., of Beloit, Wis. The illustration gives a very good idea of the operating principle of this attachment. It can be permanently fastened to the frame of the car by means of bolts, or clamps can be furnished so that it will not be necessary to drill holes. For light runabout use a pair of these air cushions can be had for \$10, or a set of four for \$20. \$25 is the price of a complete set for touring cars. The manufacturers guarantee each cushion for one year and they will replace any broken parts during that period.

The Supplementary Spiral Spring Co., of New York, produce the Graham "Super-Coil." This is an ingenious device in the shape of an ordinary spiral spring, which works between

The "Weeber Shock Reliever" is an apparatus of rather novel construction, as the illustration indicates. It is made by the C. F. Weeber Mfg. Works, of Albany, N. Y., and ranges in price from \$30 to \$40 for sets of four, in accordance with the weight of the vehicle to which they are to be attached.

The "Foster" shock absorber, produced by the Gabriel Horn Mfg. Co., of Cleveland, Ohio, is constructed on the friction principle. It is very much different than all others of this



THE GRAHAM "SUPER COILS"

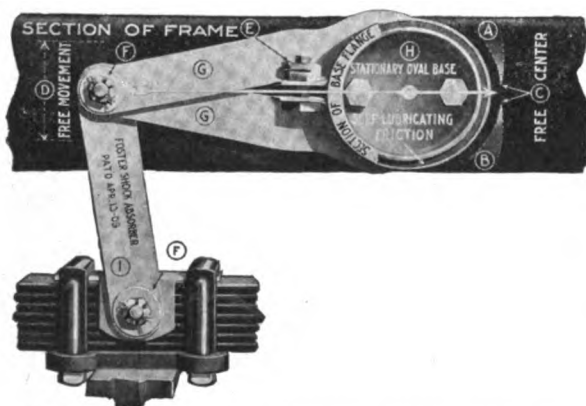
type, however, the friction mechanism being on the end which is attached to the car frame. The stationary base is an oval steel cup $\frac{1}{4}$ -inch longer than wide, and fitted with a flange for excluding mud and dirt. This cup is encircled by a one-piece flexible oval steel band faced with a grease-treated leather friction, which is self-lubricating. The oval shape of cup and flexible steel band causes a free central movement that reduces wear on the friction material to the minimum, and it is claimed that one

set of lining is good for fifteen to twenty thousand miles of travel. The "Foster" retails at from \$40 to \$60, according to the size desired.



THE "WEEBER SHOCK RELIEVER"

Believing that the hydraulic principle is the best, the Knapp-Greenwood Co., of Boston, have brought out the "Boston" shock absorber, which employs the liquid force idea. A set of four "Boston's," with hangars to fit car, sells for \$80. When this absorber is in operation check valves open and allow the piston to go down freely, but when the piston starts up the valves close, and it can come up only as fast as the oil is forced through a by-pass. When



"FOSTER," MADE BY GABRIEL HORN MFG. CO.

the piston gets back near the top of the cylinder it comes to a groove, which, acting as a supplementary by-pass, gives a partial release, freeing the spring slightly. This release is just sufficient to prevent any dragging on the spring when going over a rapid series of small jounces, and, at the same time, to take up all recoil so that no jar is felt when riding over pavements.

Effective Work of the Split-Log Drag

As an object lesson in the effectiveness of the split-log drag on earth roads, an inspection of the dragged roads of East Lampeter Township, Lancaster County, Pa., on Thurs-

day, May 25, was a revelation to those not previously familiar with the work of this simple and inexpensive road instrument. The inspection party traversed roads that were remarkable for their resemblance to race tracks in the evenness of the surface and solidity of the roadway. Of the forty-five miles of dirt road in the township forty are dragged, the work being done by thirty-five section foremen under the superintendency of the Board of Supervisors, David Kreider, Jacob Bachman and Dr. Donald McCaskey, who are alive to a high sense of their duty and intelligent in discharging it.

The drag was introduced into the township about two years ago, when the condition of the roads was dangerous, as they abounded in deep ruts and mudholes. After a two years' use of the drag the township now has roads second to none in the county, in spite of a reduction of a half-mill in the tax rate. Abram L. Landis was awarded a prize of \$10 offered by I. N. Sheaffer, a business man of Witmer, to the section foreman having the best section of road. Out of a possible one hundred points his average was 95 per cent.

The roads were all judged according to the following table of points: Conformation, 30; drainage, 20; absence of loose stone, 10; projecting stone that could be removed, 10; smoothness and solidity, 30. The presence of breakers in a section was also noted in a general way by the judges and counted against the sections having them.

The judges, who were Col. Henry O. Demming, State mineralogist; E. S. Bayard, editor of the *National Stockman and Farmer*, and Dr. A. E. Leaman, president of the Lancaster County Supervisors' Association, expressed themselves very much surprised with the uniform excellence of the roads. Speaking on the work of the drag, Dr. Leaman, who is a staunch advocate of it, stated that a mile of road can be dragged twenty-five times a year at a cost not exceeding \$12. At the conclusion of the inspection the party, which included railroad officials, road-makers and business and professional men, stopped at the home of Dr. McCaskey at Witmer, where refreshments were served.

The drag has been introduced into Lancaster County by the Lancaster Automobile Club, and through the efforts of the club its use has become general.

Annual Convention of Good Roads Men

Good roads advocates of the entire country met in convention at Birmingham, Ala., May 24 to 26, the occasion being the Fourth National Good Roads Congress. The gathering was representative of fifteen States, and among the speakers on the program were prominent men from all sections. The congress was one of the most successful ever held, and it resulted in the development of much good roads enthusiasm throughout the entire South. The residents of Alabama and other Southern States realize what the development of better highways means to them and there is perhaps no section of the country having more sincere advocates of highway improvement.

The delegates to the convention were entertained in a most royal manner, special events of various kinds having been arranged for their benefit. Gov. Emmet O'Neal, of Alabama, joined in the welcoming ceremonies, and in the course of his remarks he took occasion to congratulate the National Good Roads Association for its growing influence and promotive strength in furthering the movement of public highways. He commended the good roads advocates for their efforts in overcoming the sneers of the pessimists in working out their campaign in such a cause as will accelerate the development of the country's resources. Governor O'Neal said in part:

When we consider that no State has ever yet reached its highest state of civilization in the absence of a system of improved roads and highways, and that their advantages and beneficial results are so obvious to every thoughtful man, it is almost inconceivable that we should have so long been content with the miserable, wretched public roads which so generally prevail in the States or that any opposition should be found to a movement seeking to remedy their condition. I congratulate you that since your last meeting the State of Alabama has abandoned its former policy, has established a highway commission and has placed the construction of our public roads under the supervision and management of a skilled, competent and experienced commission.

Included in the convention's program were the following addresses:

Report on "Work of the Congress"—J. A. Rountree, Secretary National Good Roads Congress.

"Federal Control of the Roads"—Senators John H. Bankhead and Joseph F. Johnston, of Alabama.

"Progress of Road Improvement in the South"—Hon. Logan Walter, Director, United States Office of Public Roads.

"Importance of Good Roads"—Hon. Walter D. Seed, Lieutenant-Governor of Alabama.

"Railroads and Good Roads"—J. C. Clair, Industrial and Immigration Commissioner Illinois Central, Chicago, Ill.

"Historical Highways"—Report by Mrs. O. A. Lane, Chairman D. A. R., and others.

"Road Laws of Alabama"—R. E. Spragins, President Alabama State Highway Commission.

"Co-operative Road Building"—C. C. Gilbert, Secretary Memphis-to-Bristol Highway Association, Nashville, Tenn.

"Relation of Colleges to Good Roads Movement"—Prof. G. N. Mitcham, of Civil Engineering Alabama Polytechnic Institute, Auburn, Ala.

"Road System of the State of Ohio"—Jesse Taylor, Secretary Ohio Good Roads Federation, Jamestown, Ohio.

"Irrigation and Good Roads"—Address by Arthur Hooker, Secretary National Irrigation Congress.

One of the chief speakers of the congress was Senator John H. Bankhead, of Alabama, who is generally believed to have been the first to recommend federal appropriations for purposes of road building and maintenance. He urged the Good Roads Congress to start a movement for the coalition of all five national highway associations into one great national organization like the Harbors and Waterways Association. He told them that they could then march on Washington and demand the necessary appropriations for road building purposes.

Senator Bankhead pledged his support in the cause of obtaining appropriations for the construction of highways, and said that during the remaining eight years of his term he intends to work mainly for the attainment of this object. He assured the gathering that seventeen Senators have prepared speeches advocating the good roads movement and appropriations for road building. Following is a portion of his address:

My presence here is at the sacrifice of other duties I owe the people of Alabama. However, to my mind, there are certain questions of importance to the people not only of this State, but of the whole country which need my effort more than do any matters before the deliberation of Congress or the Senate.

I have spoken so often on this subject that I fear the people will think I am talking too much, and will prefer to hear some other speaker who

knows more about it than I do; but I have a purpose to accomplish.

Every object that you can think of has been contributed to by Congress except the highways. The constitution declares that Congress has the power, and the duty is implied, to construct post-offices and establish postroads, so there can be no objection—there can be no doubt—that Congress has the right to make appropriations for highways just as much as for postroads.

Wherever our flag has gone, we have followed it to build good roads, as they say, to develop the country. Don't you think it would be just as constitutional to build some good roads for our people at home, who support the government as the source of all its revenues?

When we had a war with Spain we invaded Cuba, shouldered our picks and our shovels and went right off to building good roads for them—the finest roads in the world. When the war was over we withdrew our troops and came home, but we left our roads down there. Later they had a little insurrection and called us back to build them some more good roads, but soon they let us come home again, and I'm looking for them to have another row soon.

Plans for Louisville and Nashville Pike

Automobilists all over the country are interested in the project which is now attaining definite form in Kentucky, for the construction of a model highway from Louisville to the Lincoln Park. The route most favored is over the historic Louisville and Nashville pike, which for years before the war was the chief medium of communication and transportation between the cities whose names it bears. At present, as the result of disuse and neglect, it is in bad shape, but a few weeks' work will put it in excellent condition.

As the result of several meetings which have been held, the week of July 31-August 5 has been set aside as "Good Roads Week," and during that time it is planned to rebuild the highway from Louisville to the birthplace of Lincoln in Larue County, about 50 miles away. It is then planned to carry the road, in its reconstruction, to the Tennessee line, where it will be taken up by the good roads builders in that State, and will be made to connect with the big Memphis-to-Bristol road which is projected there.

Highway from Palm Beach to Montreal

With the signing of the New York-Montreal highway bill recently, Governor Dix, of New York, made it possible to start work on one of the most important sections of a high-

way stretching from Palm Beach, Fla., to Montreal and Quebec, Can. The stretches between New York and Atlanta, Ga., and from the latter place to Jacksonville, Fla., have been routed and all that remains is the completion of the section from New York City to Rouses Point, at the Canadian border, and the improvement of the roads in the Dominion of Canada, leading from Rouses Point to Montreal and Quebec. Howard D. Hadley, chairman of the New York-Montreal Road Committee, was presented by Governor Dix with the pen used in the signing of the International highway bill. Mr. Hadley has been very active in the development of good roads in New York State and in speaking of the Palm Beach-Montreal road he said:

Yes, we're going to have a road, an "international highway," from New York to Montreal. That's settled. We will build it just as fast as men, teams and road machinery can be put to work. In two years this highway will reach from Palm Beach and Tampa, Fla., to Ottawa and Quebec, Canada, making it the longest and finest in the world.

The New York-Montreal road and the Champlain Canal will be done within two years, just about in time to make the centennial of the battle of Plattsburgh, the last naval battle between Great Britain and the United States. I hope the present Legislature will provide for a commission to arrange for the celebration on Lake Champlain and on the Niagara frontier of the completion of one hundred years of peace between English speaking peoples.

I hope a fine granite arch in honor of peace will be erected near Rouse's Point, where the New York-Montreal road crosses the Canadian boundary line, near Fort Montgomery. This will emphasize the fact that we are building roads now instead of forts.

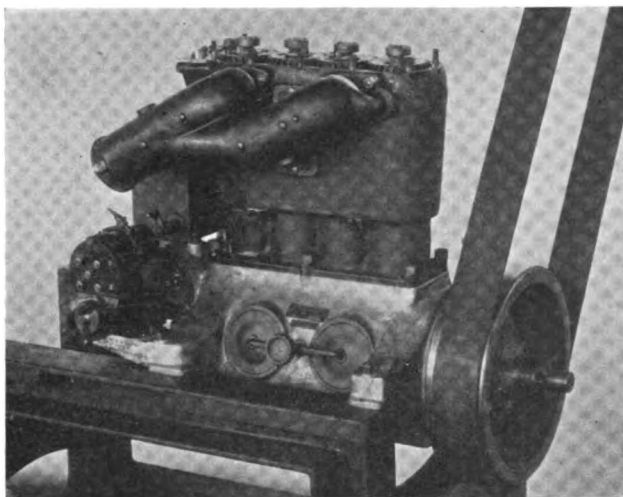
This road, connecting as it does, the metropolis of the United States and the metropolis of Canada, will soon reach from Palm Beach and Tampa, Fla., to Quebec and Ottawa, Canada, and will help greatly to promote social and business intercourse between two great-peace-loving nations.

With the completion of the Champlain Canal, the connecting link in the great Hudson-Champlain-St. Lawrence waterway intercourse between the two countries, will be still further facilitated.

The Automobile Club of Buffalo is making preparations to take the orphans of that city on their annual outing on June 14, and expects this year's affair to be the best ever held in the Bison City.

The Reynolds Rotary Valve Motor

The problem of designing and constructing a silent, smooth running motor embodying all the advantages of 2-cycle and 4-cycle types, with none of their disadvantages, has been solved, it is claimed, by the Reynolds Motor Company in their 4-cylinder, 20 hp. rotary valve motor. The engine is unique in several features, and its design is the result of two years of experiments, under the supervision of Howard E. Coffin and three other prominent engineers. Extensive plans have been made for wholesale manufacture and marketing.



REYNOLDS ROTARY VALVE MOTOR

A number of Detroit's most prominent business men are directors and officers of the corporation, which is capitalized at \$100,000. M. J. Murphy, president of the Murphy Chair Company, also Security Trust Company, is the president. The vice-president, Walter S. Russel, is also president and general manager of Russel Wheel & Foundry Company. The secretary-treasurer is A. MaComb Campau. The board of directors includes the following:

Howard E. Coffin, vice-president and consulting engineer Hudson Motor Car Company; Cecil H. Taylor, consulting engineer E-M-F. Company; Guide G. Belm, executive engineer Hudson Motor Company; George H. Cheney, factory manager of Westinghouse Machine Company and Barber-Coleman Company; Herbert C. Sadler, professor of naval architecture University of Michigan.

Four cycle motors have been used for some time, but their comparative complication has made it difficult for the average man to handle them without the occasional aid of an expert. Valve grinding, valve timing, adjustment of push rods, replacement of cams, etc., often times prevent their successful operation by a novice.

With the advent of the rotary valve motor,

however, all of the disadvantages of the four-cycle type have been eliminated. The great valve problem, that of getting the gas in and out of the cylinder quickly, has been entirely solved. Not only that, but the construction is such that a deposit of carbon inside of the cylinder, or the sticking of the valves, is absolutely impossible. Many engineers predicted when the motor was first designed, that difficulties would be experienced in this respect, but it has been found, after careful tests, that the reverse is true.

The rotary valve which seats against the head of the cylinder is allowed enough freedom so that there is at all times an oil film about .002 in. thick between the valve and the seat itself. While it is true that any sustained pressure against the under side of the valve will tend to squeeze the oil out, yet owing to the fact that the pressure of the explosion is only for a small fraction of a second, and is immediately succeeded by suction, a sustained pressure is not maintained.

The valves not only operate perfectly, but are lubricated in a very excellent manner. Any wear that might also take place, can be very readily taken up; the valves need no grinding, in fact they constantly maintain their seats. Any particles of material or foreign substances which might tend to produce abrasion, are collected in small holes drilled in the faces of the valves.

The ports are generous in size, and so arranged as to allow very free passage of gas in and out. The opening instead of being annular, as in the case of the ordinary poppet valve motor, is an open space. There is no throttling of gas or impinging against the stem or itself, as in the case of the ordinary poppet valve type. Not only this, but the con-

ainuous rotation of the valves, which are, of course, inclosed, produces very little if any noise.

There is an entire absence of the little hammer blows, so noticeable in the poppet type. Cams, cam shafts, springs and all the troublesome parts of the ordinary four-cycle motors, are entirely eliminated, the valve gear being confined to one cross shaft, one vertical shaft, and the necessary helical gears, all of which are enclosed and very noiseless.

The gears which drive the valves are keyed to the stem, and the nuts on top of the gears are locked by means of a very novel lock washer. A unique feature in the design of this motor is the lubricating system; a force feed lubricator, driven from the cross shaft, supplying oil to each of the valves, through force pipes, which enter into holes drilled in the cylinder cover. Their location is such that the oil is led through these passages, and dropped into the top of each one of the valve spindles, in such a way that it flows downward, lubricating the sides and face of the valve, in very positive manner. The main bearings are lubricated by splash, the oil flowing down from pockets cast in the side of the crank case. A very clever arrangement is made for maintaining the oil level in the crank case when the motor is placed at an angle.

Other unique features are a water cooled exhaust pipe, a compact arrangement of water pump, magneto and lubricator; a short well

constructed ignition conduit; a large, stiff, two bearing crank shaft, light but well designated pistons and connecting rods, and an extremely accessible crank case.

The ignition system includes an Eiseman dual system magneto, and coil, a Precision force feed lubricator; a well designed water gear pump, and starting device. The entire piece of mechanism is furnished complete for installation.

The general dimensions are interesting. The bore is $3\frac{1}{2}$ in. by $4\frac{1}{2}$ in. stroke, the connection rod bearings are $1\frac{7}{8}$ in. by $2\frac{5}{8}$ in., and the main bearings $1\frac{7}{8}$ in. by $3\frac{1}{2}$ in. and 4 in. respectively. The flywheel is 14 in. in diameter, 4 in. face, made in a dished shape which permits its being placed very close to the crank case. The entire motor is only 31 in. over all, and 23 in. high. Its weight complete, with magneto, is 370 lbs., its hp. is from 15-20, at a speed of 750 to 1,300 R.P.N.

Combination Hunting and Touring Car

The Widespread use to which automobiles are placed nowadays is illustrated in the combined hunting and touring car recently built by the Southern Motor Works, of Nashville, Tenn., for J. J. Gray, Jr., a millionaire phosphate man of Rockdale, Tenn.

The hunting body which is shown mounted on the chassis can be readily detached at the rear of the front seat, and the touring car body shown in the foreground put in its place.



HUNTING CAR OF J. J. GRAY, JR.

Automobile Topics

Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Published by AUTOMOBILE TOPICS (Incorp.)

S. WALLIS MERRIHEW, President and Editor.

THEO. DRAZ, Vice-Pres. and Treas.

W. A. SMITH, Business Manager.

W. E. BALDWIN, Secretary.

Vol. XXII. No. 9.

NEW YORK, JUNE 3, 1911

Price, Ten Cents.

AUTOMOBILE TOPICS is published weekly by Automobile Topics (Incorp.), Terminal Building, 103 Park Avenue (Cor. 41st Street), New York. Subscription price, \$2.00 a year in the United States, and \$4.00 (gold) in advance in Canada or in foreign countries within the Postal Union. Advertising rates may be had on application.

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Cable Address—Autotopics, New York.

Telephones { 5524 } Murray Hill.
 { 5525 }

An Extraordinary Speed Contest

Viewed in its broadest—and therefore its true—aspect the 500 miles Decoration Day race at Indianapolis was the greatest automobile contest ever held. As a sporting event it was probably the most unique in modern annals, and we must hark back to the Roman games and shows to find its equal. As a speed saturnalia it takes precedence over anything in the world's history, and showed in striking fashion that the field of effort of the modern gasoline motor is practically limitless.

Opinions differ, and probably always will, as to the utility of speed contests. Even the most ardent opponents of such events will, however, admit that they were of vast value in the early days of the industry, and led to many improvements and, in great part, to the approximate perfection to which the art and science of motor vehicle construction has been brought. To say, then, that speed contests are no longer useful is to hold that further improvement is not needed, so perfect are the cars of to-day, or that road usage will serve

the same purpose as races did in the past. To those who hold this view we urge a study of Tuesday's race. In dozens of cases it was either the supreme test which set the hall mark of approval on apparatus prepared for the occasion, or it revealed deficiencies and errors hitherto unknown or vaguely suspected. As such it was worth even its excessive cost to those who studied diligently in this school of experience.

As to the sporting aspect of the race it dwarfs every event of which we have personal knowledge. That more than 80,000 people should pay from \$1 to \$4, journey four miles into the country, and for more than seven hours sit and watch whirling monsters circle a vast, brick paved and heat emitting track—and enjoy it to the end—this is absolutely unprecedented in these modern days.

To Indianapolis belongs the credit of outdoing everything we have seen in the way of speed carnivals. All honor to her and her enterprising far-seeing business men.

PREVENTIVES AND REMEDIES

The usual method employed to fix the leather to the metal center of a clutch is to rivet it by means of a number of copper rivets, whose heads are countersunk into the leather. If the rivet heads are not knocked in lower than the outer surface of the leather, then when the clutch is let in these grip fiercely on the metal outer clutch surface, and thus prevent the clutch working smoothly and gradually getting up way on the car. Some difficulty may also be experienced in taking out the clutch, owing to the seizing of the copper rivet heads on the metal clutch. As it is rather difficult to obtain leather suitable for clutch work of any greater uniform thickness than a quarter of an inch, and some of this must be turned off in truing up the leather after riveting, there does not remain more than an effective depth of one-eighth of an inch of leather held by the rivet head. This should be one-sixteenth of an inch below the leather outer surface, to allow for wear and compression. Those who experienced trouble with fierce clutches should examine the rivets and knock them lower to level with the leather outer surface.

A leaky tire patch can easily be removed by the application of a few drops of gasoline. This liquid can also be used in cleaning the surface of the tube, but should not be applied until the place has been well roughened with glass paper. Put the old patch away for future use, and apply a fresh patch, two coats of solution, spread on thinly and well rubbed in, especially the first, squeeze the patch and tube together as hard as possible with the finger and thumb, beginning in the center of the patch and working out to the edges. A block of wood may be held under the tube and the patch beaten with a hammer, but care must be taken.

There are a number of drivers who can economize on gasoline and at the same time get better work from their engines than the driver who is too generous with his fuel. The whole question lies in the fact that the one who is able to use a lower quantity of gasoline has hit upon the correct method of running his engine—and that is allowing the carburetor to take in as much air as it possibly can, and still

retain a good mixture. The most effective mixture of spiritous vapor and air is that which will run an engine at its highest power, which power is in no way increasing in richness of the mixture. What is really meant by this can easily be ascertained by the owner of any motor in the following manner: Close down the air opening to the carburetor so as to obtain a rich mixture for starting, and then turn the starting handle, when the motor commences to work. Attention should now be turned to the air inlet. Open this slowly, and if a governor is fitted this should previously have been put out of action by the accelerator being pulled up or tied down, as the case may be. As the mixture assumes its better proportion, the engine will perceptibly quicken its speed, and with its speed the power, of course, increases. Continue opening the air inlet until it is wide open, and if there is no marked diminution in the speed of the engine it may be assumed that it is running on the best proportion of mixture obtainable. If, on the other hand, the engine begins to slow down, the air inlet should be closed down again until the engine picks up its previous speed. The engine is now running at its best advantage, and is consuming the smallest amount of gasoline possible.

One of the most common causes for a motor refusing to start after a night's stay in the garage is weak batteries. When a motor is obdurate test each dry cell with an ammeter; if it shows only 5 or 6 amperes, replace it with a new one. Better still, discard the set and put in a new one. If there are two sets and each set is weak, connect two sets in series, which will suffice for a time. It is well to always carry an ammeter so that in purchasing new cells they may be tested. New ones should test in the neighborhood of from 15 to 17 amperes. Storage batteries must not be tested with an ammeter or a voltmeter. Attach a wire to one pole and snap the free end across the other pole. If a large, snappy spark results, the battery is all right. A storage battery never should be permitted to be completely exhausted; nor should it be permitted to stand without some use for any length of time, otherwise it may be ruined.

Here Are Two Facts Regarding UNITED STATES TIRES

Continental Hartford
G & J Morgan & Wright

which undoubtedly explain why a large majority of the best dealers throughout the country have chosen to handle them.

1st The demand for United States Tires, founded on their unparalleled strength and durability, and stimulated by our country-covering advertising and sales campaign, is growing faster than the demand for any other make or brand of tires in the world. Our sales sheet and our night and day rush work in our five immense factories prove that **absolutely**. It follows naturally that the business of United States dealers must at the same rate be out-stripping that of their competitors.

2d It is a mighty good thing for the reputation and business standing of any dealer to be known in his community as the dealer who handles

America's Predominant Tires

Such a reputation naturally carries with it a strong recommendation for the other lines of supplies and accessories he may handle, **especially** to the tens of thousands of satisfied motorists who are today using **UNITED STATES TIRES**.

United States Tire Company

Broadway at 58th Street, New York

Loose Sheets of This and Previous Sections May be Obtained by Remitting 10c. for Each

NEW YORK TO BOSTON

First Section—New York to Hartford

One of the most favored tours of the Eastern section is that from New York to Boston. The roads are generally in good condition, and splendid accommodations are to be had at all points along the route. The first section, New York to Hartford is here given:

From Columbus Circle go up west drive of Central Park, coming out at 110th Street and Seventh Avenue. Straight up Seventh Avenue to

Central Bridge (5.3 miles).

After crossing bridge straight up Jerome Avenue to intersection of Fordham Road. Turn right into Fordham Road and then left at fork just beyond. Cross Webster Avenue, entering Bronx Park. At end of Pelham Parkway turn left on Shore Road. Straight ahead to Center Avenue, New Rochelle. Ahead on macadam to Echo Avenue, where turn left. Turn right into Main Street through Larchmont into

Mamaroneck (21.2 miles).

Leaving trolleys at left, go up grade, avoiding left fork. At 23.7 miles bear right over stone bridge, curving left immediately beyond. At fork at flagpole, Rye, turn right; straight ahead on main road. Cross bridge and one mile beyond bear right. Turn left with car tracks into

Portchester, N. Y. (20.6 miles).

Keep to right on N. Main Street. Bear right over stone bridge. Straight ahead through four corners just beyond. Straight ahead up long grade entering

Greenwich, Conn. (29.6 miles).

Straight a short distance, then right down hill. Turn left with car tracks to five corners, where turn right into

Stamford (34.8 miles).

Straight ahead to small park where take left. Direct over Noroton River, and through Noroton village. After passing hospital turn right and a short distance beyond take left into

Norwalk (43.5 miles).

Turn right across bridge over Norwalk River and after passing fountain curve left with car tracks. Turn right up grade into Westport Avenue. Follow trolley tracks in center of

Bridgeport (57.2 miles).

Continue on Fairfield Avenue. At fork beyond iron bridge turn left and about three miles beyond turn left again into

Stratford (60.9 miles).

Turn right with trolleys. Where the car

tracks leave, run straight ahead on main road, meeting trolleys about two miles beyond. Follow same into

Milford 65.3 miles).

At farther end of Green curve left with trolleys. Follow same until they bear right. Bear left straight ahead meeting trolleys at four corners. Follow tracks and at fork just beyond take extreme left to end of street where bear left and at the end of one block turn right and first left into City Green,

New Haven (74.5 miles).

Skirt Green by College Street. Up Temple Street into Whitney Avenue. Follow trolley to head of Lawrence Street, turn right on Lawrence Street to end of same, turning left with car tracks across Mill River. Bear left on State Street and continue northerly. At triangle turn right across Quinn's River. Straight ahead to four corners at

North Haven (83.1 miles).

Turn left. Follow trolleys until they leave to left. On main road into Wallingford. Straight ahead through town. Left turn under R. R., and immediately sharp right into Tracy. Where trolleys go left continue straight ahead to fork; keep left then straight into Cook Avenue. Continue on Cook Avenue, turning right into Hanover Street. Turn left on S. Grove Street, one block to W. Main Street; turn right on W. Main Street to center of

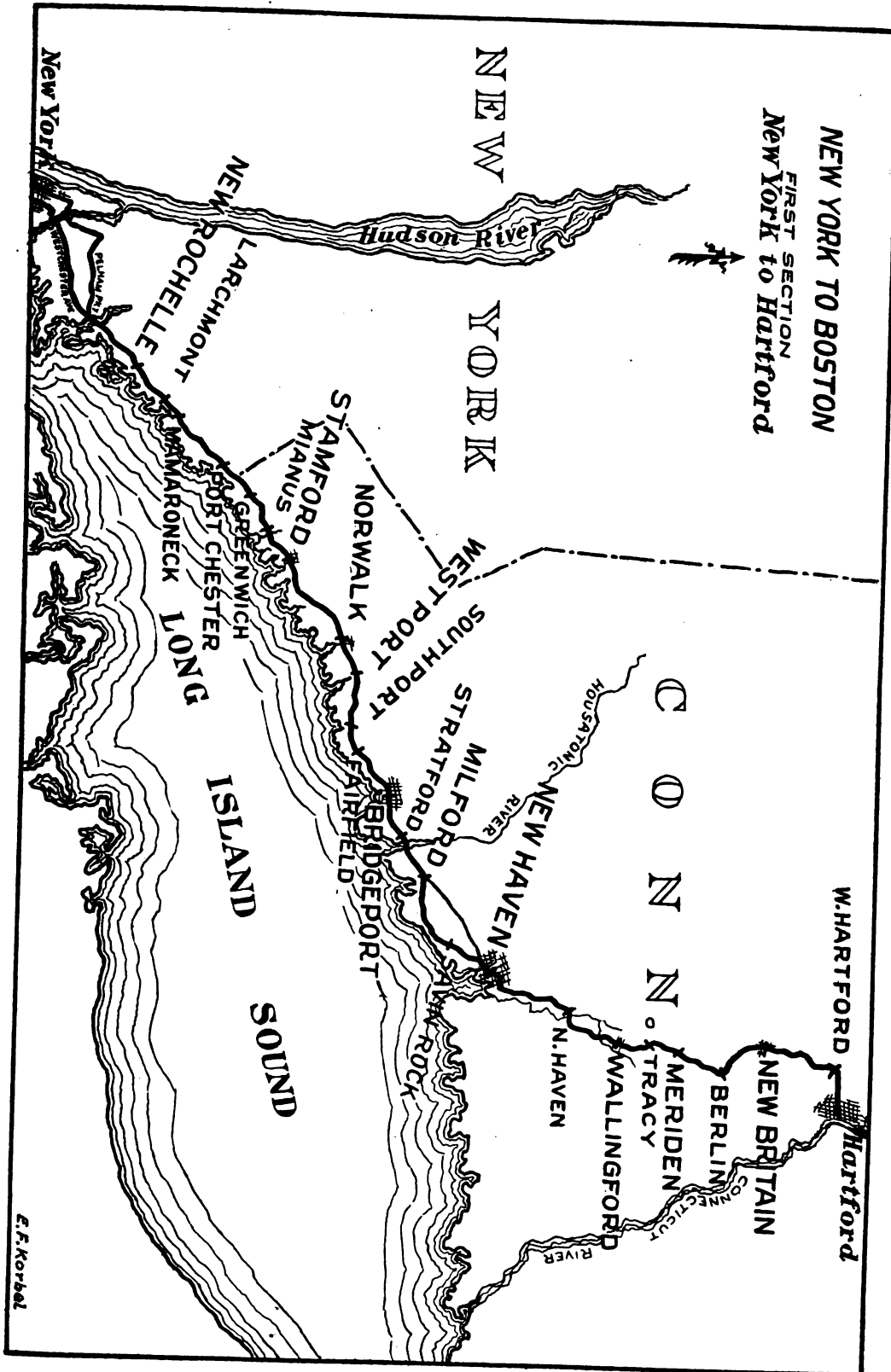
Meriden (94.7 miles).

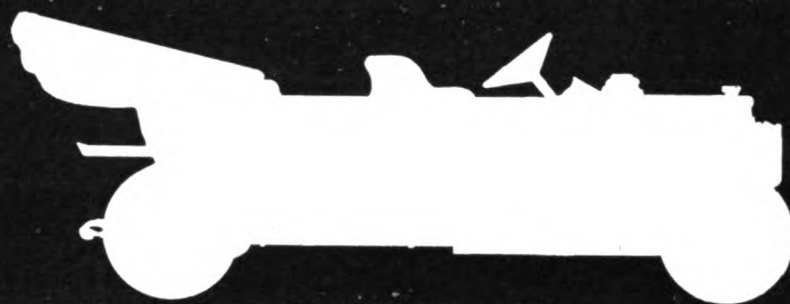
Turn left up Colony Street to fork, at upper edge of town. Bear right over R. R. tracks and at fork keep left. At sign "New Britain 6 Miles," turn right direct through Berlin Center. At further end of town turn left with trolleys. Beyond R. R. station turn right and run direct into

New Britain (105 miles).

Bear right on Elm Street and go straight for about one mile, where meet trolley line. Follow same to end of line; thence on macadam to left hand road. Turn left, then straight ahead two miles. Meeting cars, follow same straight into

Hartford (116.5 miles).





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COMMERCIAL MOTOR VEHICLES

Errors in Guarantees Pointed Out

At a meeting of the Motor Truck Club, held at this organization's headquarters in New York last week, the subject of guarantees given by commercial motor vehicle dealers was taken up at some length. The chief paper of the evening was read by John Hanson Kennard. It dwelt quite fully upon the customs and abuses which prevail in the matter of guarantees at the present time. The contents of this paper, in part, are as follows:

Guarantees may be divided into three classes. First—The guarantee which the manufacturer would like to give with his goods; second, the guarantee which he has to give with his goods in order to sell them, and third, the guarantee which the purchaser would like to obtain from the manufacturer. I have selected two, however, illustrating the extreme conservative and the exceedingly liberal types, and a discussion of these and the intermediate types will enable us to cover the ground pretty thoroughly.

The conservative guarantee of which I spoke reads as follows:

"We will replace, free of cost, for three months after delivery, any part which proves defective in material or workmanship; but this does not apply to any parts damaged by improper lubrication, misuse, neglect or overloading, nor does it extend to such parts not manufactured in our works, such as wheels, tires, chains, ignition apparatus or accessories."

The liberal guarantee to which I refer is as follows:

"We guarantee that the truck, with full load, shall be able to go up Duffy's Hill, 103d to 102d Streets and Lexington Avenue, and on a test of one hour shall maintain a speed of fifteen miles per hour through the streets of New York. We further agree that for a period of two years the truck shall maintain its initial efficiency, and that all repairs, except such as may be rendered necessary by reason of accident, neglect or carelessness on the part of the owner, shall be made by us at our own expense. We further agree that we will replace all parts which break or wear beyond an efficient working condition for a period of two years. If the truck shall be out of service for the purpose of making repairs (other than those caused by accident or neglect or carelessness on the part of the owner) for a period greater than fifty days in the aggregate in any one calendar year, the truck may be returned to us, and within thirty days thereafter we will refund to the owner the full amount received from him in payment for said truck."

The conservative guarantee above quoted approaches very closely to the guarantee which the manufacturer would give if it were left entirely

to him; the liberal guarantee cited above represents what some manufacturers think they have to give in order to make sales, and also a small percentage of what the purchaser would like to receive from the manufacturer.

The average guarantee given to-day by the responsible manufacturers of motor trucks is about as follows:

"We guarantee to replace, free of charge, any parts which prove defective within one year from date of shipment, but this does not include damage or wear caused by overloading, by neglect or by accident resulting from outside causes. All parts to be replaced must be returned to us for inspection, and this agreement does not cover tires."

"Warranties which overstep the average guarantee are fraught with great danger to the manufacturer, and there is nothing more hurtful to the motor truck business than the giving of guarantees which cannot, in the nature of things, be fulfilled. It should be laid down as a general rule that guarantees should not exceed 50 per cent. of the facts nor be ambiguous. An average guarantee of one year is well within the above limits, for there is no standard truck manufactured which in its rated service will not last two years.

In drawing up his guarantee the manufacturer should never lose sight of the fact that there is a definite duty on the part of the purchaser as well as on the part of the seller. The duty of the purchaser is to use intelligently and, within its rated power his vehicle, just as it is the duty of the manufacturer to furnish the purchased with a vehicle capable of performing the service specified. It lies entirely within the power of the manufacturer to furnish such a vehicle, but it is absolutely beyond his power to compel the purchaser to use the vehicle intelligently, and therefore the guarantee should state in the plainest terms that it is absolutely dependent upon the vehicle being so used. No man can safely guarantee what he cannot control.

The guarantor adopts the design, selects the material and provides the workmanship, and these things being distinctly within his province should be covered by his guarantee; but he does not employ the chauffeur who operates and cares for the vehicle after it is sold; he does not regulate the loads carried or the speed made or the quality of gasoline used, or any of the details of operation. Even with such specifications included the risk of the manufacturer is considerable, because if the purchaser violates his agreement the evidence of the violation is in the possession of the purchaser and not the manufacturer. The purchaser can show the broken part, but often it is impossible for the manufacturer to state how the break occurred.

In view of these facts, it is better that a guarantee should never say that a truck will but that

a truck can. Each manufacturer knows the capacity of his vehicle; he knows that that capacity can be realized under proper conditions; in other words, he knows what his truck can do! but what the truck will do in the hands of a third person he can never say.

Drive Employed in the Remington

Some manufacturers of trucks do not hesitate to inform their customers that the method of transmitting power from motor to wheels is, and has been entirely settled for all time, and that the particular method which they employ is ideal, whether it be by sliding gears, friction drive, planetary or electric transmission.

It is difficult for the average purchaser of trucks to come to a satisfactory decision as to the merits of the various transmissions after he has been deluged with the arguments advanced by the manufacturers, or their representatives, especially if he is not mechanically inclined, or the employer of a competent consulting engineer.

Unfortunately, it is exceedingly difficult to find competent men who have the open mindedness, in addition to the ability, to capably criticise the various types of transmission, as the majority of such consulting engineers are fully decided, in advance, as to all the advantages and disadvantages of each, and will give an unofficial opinion off hand, and one which it is very difficult to alter later by any amount of actual demonstrations. This, of course, is not always the case, but is so much so that cautious buyers of trucks frequently consult men who are notably opposed to certain types of transmission solely for the purpose of learning the arguments against their use, and again, others who are prejudiced in their favor.

Users of trucks in considerable number usually employ a superintendent, and it is frequently difficult to differentiate between decisions made by him, as to relative values. Some are prompted by clear judgment and experience, and others by feelings of friendliness and personal inclination, and the only safe thing for an owner then to do is to make a personal inspection of the records of each truck as to reliability and efficiency, and determine the correctness with which the records have been kept. It is a simple matter to doctor such records, and they lose all value if not reliable.

The appearance of a new transmission, such as the hydraulic, used in the Remington, awakens all the doubters and the Old Guard, and the more efficient it is, and the more simple the control, the greater the pressure of doubt, and the more shaking of heads. Some, on the contrary, are wide awake to the possibility that there might be something new under the sun after all, and read, study and investigate, especially when they find that each unprejudiced investigator is afforded every opportunity of making a personal study of the Manly hydraulic drive, and determining why the United States government has adopted it for all battleship work. Also, why the Bethlehem Steel Company is installing sixty of the drives in the \$22,000,000 Argentine battleships for moving and controlling the turrets and great guns.

The Remington five-ton truck, with its full load, or even with 100 per cent. overload, is controlled at all speeds, backward or forward, by one single lever on the steering wheel, or it can be moved, at a crawling space, and controlled by the driver, when walking alongside, with hand on the lever. This is an exceptional advantage when the truck is being backed up to a platform, or into a shed, as the driver has an unobstructed view, without the necessity of turning his head and steering at the same time. The natural instinct of the inexperienced driver would be to push the lever forward when the truck is to go in that direction, and to pull it back when the opposite direction is desired, and this is a simple description of the operation of controlling the truck. There are no change gears, no clutch, no differential gears and no necessity for a brake, as the drive is a most powerful and effective check of itself, and eliminates the dangers and labor attached to keeping the brake operative.

Naturally, such radical departures from prevailing practice awaken great interest, and from many parts of the country inquiries come and press information relative to the Remington truck is eagerly sought by dealers and manufacturers.

New \$850 Taxicab

A new type of taxicab, known as the "Titan," arrived in New York this week from the Detroit factories of the United States Motor Company. One of the principal features



\$850 "TITAN" TAXICAB

of this cab is that it only costs \$850, and the makers claim that it can be run three miles at the usual cost of one mile, with the result that that operator can accept a much lower rate than is charged at the present time, and still make more money than his handicapped competitor.

The "Titan" is a two-passenger cab weighing approximately 1,600 pounds. The body is a rather original creation of the landaulet type, having a single front seat at the driver's right. The seats and trimming are of rattan, which is immune from damage in rough usage, sanitary under all conditions, and almost indestructible. The floor boards, scuff plates and toe boards, inside and out, are aluminum matting, which makes for cleanliness, durability and continued good appearance. The lower inside portion of the body is also lined with aluminum.

A wheelbase of 88 inches permits short turning radius. The motor has one cylinder, 4x5 inches, and it embodies a loaded balance gear, which eliminates the usual torque vibration of one-cylinder cars and the vibration due to reciprocating weight. Coiled springs are used. The drive is accomplished by double

side chains and the brakes are on the rear hubs. Other details include splash lubrication, thermosyphon cooling, multiple-disc clutch, selective transmission, and axles of wood, oil treated and trussed.

Need Additional Automobile Apparatus

Within a short time the Board of Public Safety of Indianapolis will ask for automobile apparatus for the fire department. The apparatus to be purchased will include a squad wagon, a combination hose wagon and engine, and a combination hose and ladder wagon. The squad wagon will carry seven picked men, 250 feet of chemical hose and a 40-gallon chemical tank. One squad wagon has been used by the Indianapolis fire department several months.

Chalmers for Louisville Engineer

The city fathers of Louisville, Ky., have decided to add to their supply municipal automobiles. An order has been placed with the local Chalmers representative for a car to be used by the engineering department of the city.

INDUSTRIAL AND TRADE NEWS

Continued Increase in Exports

The exports of automobiles from this country is still over the million and a half mark per month, the latest reports from the Federal Department of Commerce and Labor showing that during the month of April, 1911, there was exported by American manufacturers \$1,786,864 worth of automobiles and parts, an increase of \$573,820 over the same month in 1910. During the month of March, 1911, the figures touched \$1,638,947. While the increase for the month of April was not as great as March over the corresponding month of the previous year, the figures for the ten months ending April, 1911, show a gain of \$4,028,730 over the same period of 1910. During the ten months ending April, 1911, there was exported \$11,624,045 worth of the product of the American automobile manufacturers. Of this amount more than a third was sent to Canada, the exact figures for this country being \$4,805,689. The official figures are as follows:

	Apr. '10	Apr. '11	10 months ending Apr. '10	10 months ending Apr. '11
United Kingdom...	\$206,976	\$204,768	\$1,551,576	\$1,862,755
France	106,689	77,029	482,855	422,211
Germany	36,988	26,072	154,793	211,771
Italy	71,891	43,692	289,818	174,399
Other Europe...	52,433	114,902	247,087	557,178
Canada	547,646	921,242	3,057,456	4,805,689
Mexico	49,087	51,174	455,957	596,815
West Indies and Bermuda	21,808	32,201	394,387	343,433
South America..	43,286	93,637	275,120	687,921
British Oceania..	10,011	130,905	307,312	1,036,569
Asia and other Oceania	39,291	57,363	245,743	672,013
	\$1,213,044	\$1,786,864	\$7,595,315	\$11,624,045

Drop of \$71,244 in Imports for April

There was a decrease in the imports of automobiles and parts to this country during the month of April last over the corresponding period of 1910, and it was not as great as March, 1911, over that month in 1910. During the month of April, 1911, there was imported \$141,933 worth of cars and parts, which is a decrease of \$71,244 over the same period in 1910. Of this amount France leads with \$52,289, while the United Kingdom is second with \$28,988. During the ten months ending April, 1911, the figures showed imports to the extent of \$1,484,283, while for the ten months ending April, 1910, there was imported \$2,-

444,873 worth of foreign cars and parts. The official figures are as follows:

	Apr. '10	Apr. '11	10 months ending Apr. '10	10 months ending Apr. '11
United Kingdom...	\$23,341	\$28,988	\$208,576	\$288,621
France	143,584	52,289	1,257,979	666,065
Germany	13,259	9,166	285,934	189,180
Italy	23,976	10,072	540,181	204,895
Other countries...	9,017	41,418	152,203	195,522
	\$213,177	\$141,933	\$2,444,873	\$1,484,283

To Look After Oil and Gasolene Interests

At a meeting of oil and gasolene producers in Pittsburg, Pa., on May 27, a permanent organization, known as the Gasolene Producers' Association was formed, officers being elected as follows: President, S. G. Messer, Sisterville, W. Va.; vice-presidents, C. L. Kerr, Pittsburg; A. W. Richards, Warren, Pa.; G. L. Watson, Parkersburg, W. Va., and D. W. Franchot, Tulsa, Okla. After the preliminary proceedings, adjournment was taken until June 23, when definite plans governing shipment and handling of the product are expected to be presented for consideration.

Many Changes in Regal Company

A number of changes have been made recently in the working forces of the Regal Motor Car Co. The most important changes include the transfer of Frank G. Hood from the Buffalo district, where he had been district manager, to the Kansas City district where, as district manager, he will have charge of one of the most important automobile territories in the West. At Buffalo Mr. Hood will be succeeded by H. P. Hickey, who had recently built up the Indiana territory. George W. Franklin, who had the district managership for the State of Michigan, will have his work increased, for he will hereafter look after the Indiana territory also.

G. E. Matteson, district manager of Philadelphia territory, will open his new headquarters as district manager in Cleveland and will cover Ohio and West Virginia. L. B. Moore, who had been district manager of the Cleveland territory, recently resigned to manage the Regal Sales Company of Cleveland. Mr. Moore hereafter will devote his entire time to handling the retail end of the factory's business in Cleveland.

Wilson Prentice, who has acted as special traveling representative in the Northwest, has been appointed district manager, with headquarters at Minneapolis. His territory takes in the States of Minnesota, North and South Dakota.

A change has also been made in the metropolitan district. Max A. Weissenberger, who recently assumed duties as district manager of the New York territory, has had his field of activity enlarged. Besides taking care of his New York territory along the Hudson, he will supervise Regal sales in the City of Philadelphia.

New Members in A. T. C. A.

At a recent meeting of the Automobile Trade Credit Association of New York, the following concerns were elected to membership:

American Lava Co., Chattanooga, Tenn.; Atlas Chain Co., Brooklyn, N. Y.; Automobile Equipment Co., Detroit, Mich.; Electric Speedometer Co., Washington, D. C.; E. I. DuPont de Nemours Powder Co., Wilmington, Del.; R. M. Hollingshead Co., Camden, N. J.; Northwestern Chemical Co., Mariette, Ohio; Leather Tire Goods Co., Niagara Falls, N. Y.; N. Y. & N. J. Lubricant Co., New York City; Randall-Faichney Co., Boston, Mass.; Sumner & Dreyfus Co., New York City; Weed Chain Tire Grip Co., Bridgeport, Conn.

New Building for Firestone in Boston

A new home is to be constructed for the Boston branch of Firestone Tire & Rubber Co., property having been secured for this purpose at the junction of Commonwealth and Beacon Streets. The plans call for a large, well-equipped six-story building, and an effort will be made to have the structure ready for occupancy by the end of the year.

Conference of Cole Agents

Representatives from all parts of the United States met in Indianapolis this week for a conference with the Cole Motor Co. and the Henderson Motor Sales Co., the latter being the general Cole distributor. There was a banquet at the Indianapolis Maennerchor, an automobile ride around the city and visits to numerous points of interest. The conference was the first general meeting Cole agents have had.

To Move Castle Lamp Co.'s Plant

During the last week John N. Willys, of the Willys-Overland Co., of Toledo, completed a deal whereby the headquarters and workshops of the Castle Lamp Co., of Amesbury, Mass., of which he has a controlling interest, will be removed to Elmira, N. Y. An addition will be constructed to the Marrow plant in Elmira, where Overland parts are made, and the lamps will be manufactured there.

F. & S. Makers Bring Suit

Messrs. Fichtel & Sachs, Schweinfurt, Germany, the makers of the well-known F. & S. Annular ball bearings, and whose American representatives are the J. S. Bretz Company, have begun an action against the R. I. V. Company, the importers of the R. I. V. bearing, for infringement of the side entrance slot filling patents which they own.

Automobile Mail Collection Contracts

A contract has been let by Robert Bryson, postmaster at Indianapolis, for automobile collection of mail in that city for four years, beginning July 1. The contract was awarded to S. R. Hoffman, of the Denver Rapid Transit Co., Denver, Colo., the only bidder. The contract price is \$2,750 a year for each of three cars and drivers. An additional car is to be held in reserve. The Willys-Overland Co. has the present contract.

Federal Rubber Reorganized

The Federal Rubber Company, of Cudahy, Wis., a suburb of Milwaukee, has been succeeded by the Federal Rubber Manufacturing Company, articles of incorporation for which were filed last week at Madison, Wis. The capitalization is \$1,000,000, and the following appear as incorporators: John W. McMillan, J. G. Hardgrove and Garfield S. Canright. The Federal Rubber Company was organized about two years ago to take over the plant of the Milwaukee Rubber Works.

ADVERTISING makes you less of a slave to your business. You can put off care now and then, secure in the knowledge that *Prestige and Reputation* are mighty barriers against the assaults of competition. ❖ ❖ ❖

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A. C. A. to Test Aeroplane Motors

The Automobile Club of America has just issued the entry blank and rules for the competitive test of aeronautical motors for a \$1,000 cash prize, which will be held shortly. The rules have been prepared by the A. C. A. Technical Committee in collaboration with the Technical Committee of the Aero Club of America and many prominent aviators. The test will be conducted in the laboratory of the A. C. A., West 54th Street, New York, and will be open free to all builders of motors suitable for aeroplanes. The tests shall include: A—A test of three hours' duration at constant speed as nearly as can be maintained. The speed may be selected by the entrant, but must be announced by him before starting a test. At the start the load will be set to hold the motor at this speed for the particular spark and throttle position selected by the entrant, and this load shall not be varied during the three-hour test except as it may change automatically, as the result of variation in the speed of the motor. B—A test to determine ease and certainty of starting, from a standstill and while the engine is turning over slowly. C—Any other short test which the committee may require in order to properly award the points under the following scoring system:

No motor shall receive any points: First. If it fails to complete the three-hour test. Second. If, during the three-hour test, it fall below a speed which is 85% of the declared speed. Third. If, having made three false starts, it fails to start on the fourth attempt.

In scoring, the points awarded will be based principally on the three-hour test, but will depend to some extent on the other tests, and will be apportioned under the following heads:

Item A shall include: Ability to run steadily at the speed declared throughout the three-hour test. During this test the motor will be allowed to drop to that speed which is 95% of the declared speed, without penalty. For each drop in speed of 1% of the declared speed below 95% of said speed, $2\frac{1}{2}$ points will be deducted under Item A. If, during the three-hour test, the motor falls below that speed which is 85% of the declared speed, no points will be awarded under any item. (Thus, if a motor runs continuously throughout the three-hour test above that speed which is 95% of the declared speed, it will receive 25 points under Item A. If it drop to 94% of the declared speed, it will be credited with $22\frac{1}{2}$ points under Item A; if to 93%, 20 points; if to 92%, $17\frac{1}{2}$ points, etc.)

Each motor which can demonstrate the ability to start easily, to run slowly, and to accelerate quickly under load up to the declared speed, shall receive 5 points under Item B. Motors failing to demonstrate this ability will receive no points



**A PLASTIC CEMENT
FOR REPAIRING CUTS
AND PUNCTURES IN
ENVELOPES AND TUBES.
PUT UP IN SEALED TOP
CANS AT FORTY CENTS
EACH**

*Michelin
Milltown
New Jersey*

SPLITDORF MAGNETO on Every Winner

at the Santa Rosa, Cal., Race Meet, May 6 and 7.

The one big fact that sticks out above everything else in these continuous SPLITDORF victories is the Perfect Ignition always furnished the winner by the SPLITDORF Magneto.

Please write for Magneto Catalog

C. F. SPLITDORF

Walton Ave. and 138th St.

Branch, 1679 Broadway

NEW YORK

THE entire automobile map has been changed. You look in vain now to find any first-rank maker advocating fours as better than Sixes. That's because the

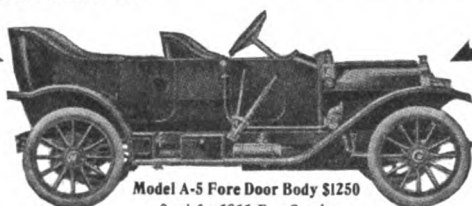
WINTON SIX

has so completely made good on its claims of Six superiority that no intelligent maker has the hardihood to deny the fact. It is worth while to have a car able to make good. Send for catalog and upkeep book.

THE WINTON MOTOR CAR CO., 423 Brea Road, Cleveland, O.

Mc-I-N-T-Y-R-E Spells "Satisfaction"**THE CAR THAT CARRIES CONVICTION.**

A McINTYRE AGENCY is a real business asset for any Dealer. The great and rapidly increasing demand for the McINTYRE LINE is an absolute assurance of large profits to the Agent who is enterprising enough to secure a McINTYRE CONTRACT to handle the "Car that Carries Conviction."



Model A-5 Fore Door Body \$1250

Send for 1911 Free Catalog

W. H. McINTYRE CO., Auburn, Ind.

Established 1834

(77 Years in Business)

J. M. QUINBY & CO.

Newark, N. J.

**SIMPLEX
ISOTTA and S. G. V.**

Complete Cars

LIGHT WEIGHT ALUMINUM BODIES**"Known all over the world as the Best"**

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**STEVENS-DURYEA
Motor Cars** *Built 'Round a Principle*

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Sampson Freight and Delivery Motors

**STERLING
ENGRAVING CO.**

200-204 WILLIAM ST.-NEW YORK

TELEPHONE 2900 BECKMAN

**PHOTO ENGRAVINGS
OF EVERY DESCRIPTION
IN ONE OR MORE COLORS.***Complete Catalogues Designed*
**THE LARGEST AND BEST EQUIPPED
ART DEPARTMENT IN THE CITY.**

under Item B. That motor which consumes the least quantity of fuel per brake horsepower per hour during the three-hour test will receive 15 points under Item C, and other motors will receive a number of points inversely proportional to the amount of fuel they consume as compared to the amount of fuel consumed by that motor showing the greatest economy per brake horsepower per hour. The power considered will be the average power delivered throughout the three-hour test.

That motor which shows the greatest horsepower output at the drive shaft (average throughout three-hour test) per pound weight (of motor and all accessories) shall receive 25 points under Item D. Other motors shall receive under this item points in proportion as they develop horsepower per unit weight as compared to the horsepower developed by that motor which develops the greatest horsepower per pound weight (of motor and all accessories). That motor which develops the greatest brake horsepower per pound weight, per 100 revolutions per minute, of the shaft (average throughout three-hour test) shall receive 10 points under Item E. Other motors shall receive under this item points in proportion as they develop horsepower per pound weight, per 100 revolutions per minute, as compared to the horsepower developed by that motor which develops the greatest horsepower per pound weight, per 100 revolutions per minute.

That motor which vibrates least shall receive 15 points under Item F. Other motors shall receive points under this item in inverse proportion to the amount of vibration which they develop, as compared to that motor which vibrates least. The vibration shall be measured while the motor is running at the declared speed, under load (i. e., at that speed at which the entrant elects to make the three-hour test), and shall be determined during a short test following the three-hour test. That motor which consumes the least lubricant per brake horsepower hour (average throughout three-hour test) shall receive 5 points under Item G. Other motors shall receive points under Item G in proportion as they show economy in lubrication per brake horsepower hour as compared to that motor which shows greatest economy in lubricant.

A cash prize of one thousand dollars (\$1,000) in gold will be awarded to the competitor whose motor secures the highest number of points according to the scale given above, unless, in the judgment of the committee, none of the motors undergoes the test satisfactorily. The prize shall not be awarded if no motor runs continuously for at least three hours, at what the committee considers a satisfactory load and speed. In the case of a tie, the prize shall be equally divided among the competitors thus tied. Entire judging as to the winner and authority of awarding the prize shall rest with the committee. Entries close July 1.

Poole Reports on South American Trade

John L. Poole, a well known tradesman who has had extended experience as a foreign representative for various automobile con-

cerns, returned to this country a few days ago, after a visit to the South American countries since last November. His report on conditions of the automobile trade in the Latin-American countries are of exceptional interest. He visited Brazil, Argentine Republic and Uruguay, which are the principal countries of South America in which the automobile market is found. He states that while these countries have great natural resources, American exporters in this country have been misled by highly colored reports of the possibilities for the sale of American goods.

The American manufacturer is placed at a great disadvantage with his European rivals by reason of the fact that the great bulk of export trade is carried on with the European countries, owing to the superior transportation facilities between European ports and South American ports. The steamer lines between the American ports and South America are inferior in every way to the lines operating between South American countries and Europe, and the wealthy and traveled class are frequent visitors to London, Paris and Berlin, and a comparatively small number ever visit the United States. Naturally this tends to build up trade between the European and South American countries.

In the case of the automobile trade, Mr. Poole found that the purchase of high-class automobiles was confined almost entirely to French, German and Italian cars. The American automobile was not taken seriously, for the only cars which had met with many sales were low-priced machines, and these had been so unsatisfactory in comparison with the better grade of foreign cars, that in the absence of high-class American cars, all cars from the United States were placed in a class as unreliable. Even the best grade of foreign cars, it is found, are purchased in Paris by the wealthy visitor from Rio or Buenos Aires on his annual trip to those cities, and the few high-priced cars sold in those cities were sold on long time, even the wealthy planters demanding from four to six months in which to make payment.

In his opinion a great deal of missionary work must be done by builders of high-grade American cars to demonstrate the fact that American cars are now being built which are superior to the European makes, and even then the close business and personal relations existing between business houses of South America and Europe, renders the American

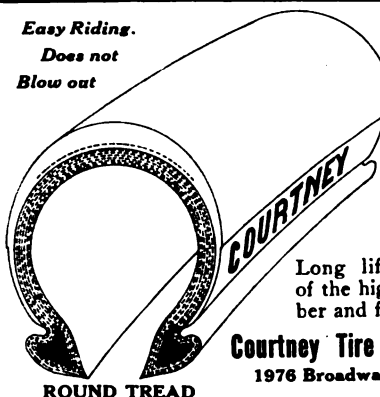
THE 1911 MERCER RACEABOUT



The only strictly high speed car built in America. 300 cubic inch displacement. A mile in 51 seconds guaranteed.

MERCER AUTOMOBILE CO. Trenton, N. J.

Easy Riding.
Does not
Blow out



COURTNEY
Extra
Heavy
TIRES

Long life. Constructed
of the highest grade rubber
and fabric.

Courtney Tire & Rubber Co.
1976 Broadway, New York

ROUND TREAD

WE WANT A MAN Who Can SELL Automobiles

One of the largest local automobile dealers in Philadelphia desires the services of a man who can properly present the advantages of the 1912 models of the highest class automobile made in this country. Sharpness not required. Health, mental courtesy and a knowledge of the automobile business necessary. This is an opportunity for the right man. Address or call

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MONOGRAM OIL

**Never Had Any Difficulty With It,
says Joe Matson**

"IT gives me great pleasure to make acknowledgment to you for the great assistance MONOGRAM OIL has been to me in all my races, both on track and road. During the years that I have used MONOGRAM exclusively, I have never had the slightest lubricating difficulty."

December 14, 1910.

"Best for YOUR engine"

NEW YORK LUBRICATING OIL CO.

CONSOLIDATED WITH

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London Representative
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NEW YORK CITY
Paris Representative
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"BECCO" SPECIALTIES
SAVE TROUBLE
SPARK-GAP TERMINALS—BATTERY CONNECTORS
SPARK PLUGS BATTERY BOXES
TIRE GRIPS WRENCH SETS
Send for Catalogue R
THE BECK COMPANY. Rockville Centre, N.Y.

THE EDISON STORAGE BATTERY
is radically different from all other storage batteries. The result is a battery of double the capacity of the lead battery. Send for catalog.
Edison Storage Battery Co., 110 Lakeside Ave., Orange, N. J.

GYREX SAY! IT'S GREAT!
THE MIXER GET ONE!
GYREX MFG. CO. INC., 1777 Broadway, N. Y.

The Value of Dixon's Graphite

is proved by its wide adoption by motor car makers. It stimulates all oils and greases. Booklet No. 11 free.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

CLASSIFIED ADVERTISEMENTS

Rates for advertisements in this department, 20 cents per line, per insertion. Each line contains about eight words. Please send remittance with order.

AUTOMOBILE INSTRUCTION for owners, prospective owners and chauffeurs. Day and evening. Send for booklet. West Side Y. M. C. A., 306 West 57th Street, New York City.

LEARN AT HOME, in a few evenings, how to construct, operate and repair Automobiles, Commercial Trucks, Flying Machines, Motorcycles, Motor Boats, Gasolene Engines, Electric Motors. Big demand, with good pay, for competent men. Thousands of positions open. Let us help you in place and pay. A postal card will do. Address, Extension Department, The Charles C. Thompson Co., 549 Wabash Avenue, Chicago.

invasion difficult, especially as the South American dealer is not accustomed to the American way of doing business on a cash basis.

In Brazil conditions are somewhat better, but unless a manufacturer has covered the home territory pretty thoroughly, there are few sections of the United States where automobile business can not be developed more profitably than in these foreign countries.

As in many sections of our own country, manufacturers have been trying to sell their cars as cheaply as possible. In order to place a low price on the chassis, foreign cars of small horse-power have been offered for sale, but as is the case elsewhere, many buyers have demanded big carrying capacity, with the result that the best makes of European cars are seen going about with motors of 20 and 30 H. P. equipped with big heavy seven-passenger bodies. A car with 40 and 50 H. P., with four and six cylinders, was looked upon with favor by those who were willing to admit the possibility of any American car being good, and there is no doubt that education along the lines of proper power requirements will produce a change.

INCORPORATIONS.

Canton, O.—Knight Tire & Rubber Co., with \$300,000 capital. Incorporators: G. F. Knight, S. W. Cunningham, C. H. Knight, H. C. Evans and M. J. Shea. To manufacture rubber tires and other rubber goods.

Seattle, Wash.—Murray Motor Co., with \$15,000 capital. Incorporators: James C. Murray and F. L. Murray. To deal in automobiles and other motor vehicles.

Salt Lake City, Utah.—Lagoon Fair & Racing Association, with \$100,000 capital. Incorporators: Simon Bamberger, Hugh I. Wilson, Ray I. Egan, J. H. De Vine, Patrick Ryan and Martin Nathanson.

Newark, N. J.—Glenwood Garage Co., with \$125,000 capital. Incorporators: H. L. Greene, W. F. Greene and C. F. Greene.

Youngstown, O.—City Auto Garage Co., with \$20,000 capital. Incorporators: J. W. Kuhn, F. P. White E. A. Renner and H. J. Kuhns. To deal in automobiles and operate a garage.

St. Louis, Mo.—Automobile Gas Generator Co., with \$25,000 capital. Incorporators: Arthur T. Rutheven, Fred Holke and Josef Fisher. To manufacture patented apparatus for automobile gas generators.

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Boston, Mass.—United States Electric Heating Co., with \$25,000 capital. Incorporators: H. J. Cushing and N. E. Mann. To manufacture electric heaters.

Chicago, Ill.—Motor Trucks Co., with \$2,500 capital. Incorporators: Arthur L. Whitley, William J. Curtiss and Raymond Visser. To manufacture and deal in motor vehicles.

Wichita Falls, Tex.—Northwestern Auto & Supply Co., with \$5,000 capital. Incorporators: O. A. Kentner W. H. McGregor and J. C. Tandy. To deal in automobiles and supplies.

Buffalo, N. Y.—United States Woodworking Company, with \$100,000 capital. Incorporators: Emil Rubinstein, Henry Lewis, Abe Panimo and James E. Morgan. To manufacture woodwork for automobiles, carriages, etc.

Brooklyn, N. Y.—Third Avenue Garage, with \$5,000 capital. Incorporators: Otto R. Berger, Wm. R. McDonald and Jacob E. Mavus.

Dover, Del.—The Diamond State Rubber Co., with \$1,000,000 capital. Incorporators: P. V. Guerry, S. P. Phillips and J. W. Kenevel.

Dover, Del.—Detroit Auto Rim Co., with \$200,000 capital. Incorporators: F. H. Fairchild, W. J. Hughes, C. C. Bradley and F. Bradley.

Oshkosh, Wis.—The Warning Sheet Metal Co., with \$25,000 capital. Incorporators: Charles F. Frieda and William Warning.

Toledo, O.—The Toledo Tire & Rubber Co., with \$10,000 capital. Incorporators: D. T. Davies, A. J. Gendron, H. C. Gassett, Bernard Greenwald and A. J. Marleau. To handle the Firestone tires and do a general tire repair business.

Automobile Calendar

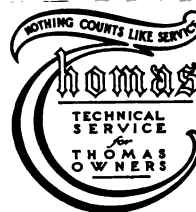
- June 6.—Suburban Contest for Electric Cars in New York. Route to be over Long Island roads.
- June 7.—The Seventh Annual Orphans' Day Outing in New York, under the auspices of the New York Orphans' Automobile Day Association. William J. Poertner, treasurer, Thoroughfare Building, 1777 Broadway, New York.
- June 8.—Annual Hill Climbing Contests of the Chicago Motor Club up Algonquin Hill.
- June 10.—Reliability Contest for Electric Cars, under the auspices of the Quaker City Motor Club.
- June 10.—Race Meet at Philadelphia, under the auspices of the Philadelphia Auto Trade Association.
- June 10 and 11.—Race Meet at the Hawthorne track in Chicago, under the management of Homer George.
- June 13 and 14.—Track Race Meet at the Wisconsin State Fair Grounds track in Milwaukee, part of the Grand Circuit.

Mosler Spit-Fire
Are The Best
A. R. MOSLER & CO.
163 WEST 29th STREET
NEW YORK CITY

THE one new car of the year
is Howard E. Coffin's master-
piece—the HUDSON "33."

Chalmers
MOTOR CARS

NONE BETTER AT THE PRICE
FEW BETTER AT ANY PRICE
"30" \$1600 "Forty" \$2800
CHALMERS MOTOR CO., Detroit, Mich.



Since the "Year 1" in American automobile-building the Haynes has stood in a place by itself. The

HAYNES

has kept its leadership. It is the finished result of ripe experience—of seventeen years of intelligent, sincere endeavor. Send for Book of Evidence.

HAYNES AUTOMOBILE CO., Station D, Kokomo, Ind.

**E. M. F. "30" and
FLANDERS "20"
AUTOMOBILES**
are guaranteed for one year

Locomobile Cars for 1911

Complete information furnished on request

The Locomobile Co., Bridgeport, Conn.

Souvenir

for those who motor—and those
who want to. . . Write for it.

Cartercar Co.

Pontiac,
Michigan

Ask the Experienced Motorist About these Distinctive Inter-State Features

The Inter-State, the "high-quality-same-price car," possesses characteristics and refinements of cars costing twice as much. Only a few of the many individual Inter-State features are here given; many others are described in a very handsome catalog which we wish to mail to you. Will you, therefore, merely signify your desire for this handsome book? It will show you the greatest automobile value in America today.

40 Horse-Power Models

Bore of Motor $4\frac{1}{2}$ inches.
Stroke 5 inches.

Inter-State

1—This $\frac{1}{2}$ -in. greater stroke gives more horse power for lighter weight motor. 2—Motor of longer life. 3—Greater economy of gasoline; 20 miles to the gallon under favorable road conditions. 4—Fine radiating surface. 5—Smoother running, less noise. 6—Reduced speed of action means reduced wear on bearings, valves, valve-stems, cams and crank shaft. 7—Longer stroke results in reduced temperature at exhaust valves; thus, valve-grinding is exceptional. 8—Increased compression and resultant economy of operation. 9—Better mixture and vaporizing of charge gives greater flexibility; the motor can be throttled down to lower speed and a steadier, more quiet and smooth pull on hills.

Integral Clutch and Gearset Runs in Oil

Greater rigidity and absence of friction—no loss of power, as clutch and gearset are of integral or unit design.

Power Transmission by Enclosed Propeller Shaft. Eliminates torsion bars and distance rods; no destructive sand or dust can work into crevices.

INTER-STATE AUTOMOBILE COMPANY

Dept. A. T. 527, Muncie, Ind.

BRANCHES: 153 Massachusetts Ave., Boston; 310 S. 18th St., Omaha.
CANADIAN BRANCH: Hamilton Machinery Co., Hamilton, Ont.



POLARINE

"The Best Ever"—BOB BURMAN

Indianapolis, Ind., May 29, 1911.

"Standard Oil Company:—

"At my first trial to-day I broke all world's Speedway records from quarter to one mile. Time for mile, 35.35 sec.; kilometre, 21.41 sec.; half mile, 16.83 sec.; quarter mile, 8.16 sec. Used your POLARINE OIL, as always. It's the best ever.

(Signed) Bob Burman."

POLARINE also helped Bob Burman break records at Daytona Beach, Fla., April 23, 1911.

These performances again prove POLARINE the best automobile oil yet produced.

You will get more power, longer wear out of your car by using it.

Write for POLARINE Booklet; free, postpaid.

Standard Oil Company

(Incorporated)

June 14.—Annual Orphan's Day Outing in Buffalo, N. Y., under the management of the Automobile Club of Buffalo.

June 15, 16.—Fourth Annual Chicago Automobile Club-Chicago Athletic Club Inter-club Motor-ing Match. Route to Janesville, Wis., and return to Chicago.

June 15, 16 and 17.—Midsummer Meeting of the Society of Automobile Engineers in Dayton, Ohio.

June 16.—Street Motor Car Carnival, under the auspices of the Washington (D. C.) Automobile Club.

June 17.—Hill Climb at Portland, Me., under the auspices of the Maine Automobile Association.

June 17.—Annual Hill Climb at Ossining, N. Y., under the auspices of the Upper Westchester Automobile Club.

June 17.—Start of the New York to Bermuda Motor Boat Race, under the auspices of the Motor Boat Club of America and the Royal Bermuda Yacht Club. Start to be made from Gravesend Bay.

June 18.—Light Car Race, to be run over the Boulogne-sur-Mer course in France.

June 18.—Start of the Paris Journal 1,000-mile aeroplane race through Paris, Liege, Utrecht, Brussels and London.

June 19.—Reliability Contest of the Hyperion Field & Motor Club at Denver, Col.

June 20.—Reliability Run of the Automobile Club of St. Louis.

June 20, 21, 22 and 23.—Annual Convention of the National Gas and Gasolene Engine Trades Association in the Hotel Ponchartrain, Detroit, Mich.

June 20-22.—Aviation Meet at Buffalo, N. Y.

June 21.—Start of the 1911 Glidden, or national tour, of the American Automobile Association from Washington, D. C., to end at Ottawa, Canada, on June 29. Distance, approximately, 1,090 miles.

June 24.—National Grand Circuit Meeting at Brighton Beach, New York.

June 25.—Light car race for the Coupe des Voiturettes over the Boulogne-sur-Mer course, France.

July 1.—Third Annual New York-Albany Motor Boat Race, under the auspices of the New York Motor Boat Club.

July 1.—National Grand Circuit Road Races over the Riverhead (L. I.) course.

July 1, 2 and 3.—The Catskill Reliability Road and Hill Climbing Contest. Start to be made in New York. Under the management of the Motor Contest Association.

July 4.—Track Race Meet at Detroit, under the auspices of the Wolverine Automobile Club.

July 4.—Track Race Meet at the Denver Speedway, under the auspices of the Denver Motor Club.

July 4.—Road Race at Bakerfield, Cal., under the auspices of the Kern County Merchants Association.

July 4.—National Grand Circuit Hill-climbing Contests at Port Jefferson, Long Island.

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- July 4, 5 and 6.—Annual Races of the Mississippi Valley Power Boat Association at Dubuque, Ia.
- July 4 to 19.—Prince Henry Tour through Germany and Great Britain.
- July 5-22.—Fourth Canadian Competition for Agricultural Cars at Winnipeg, Can.
- July 7.—Track Race Meet at Taylor, Tex., under the auspices of the Taylor Automobile Club.
- July 8 or 15.—Track Race Meet at the Belmont Driving Park in Philadelphia, under the auspices of the Norristown Automobile Club.
- July 9.—The French Grand Prix Race over the famous Sarthe Course, under the auspices of the Automobile Club of Sarthe and Oise and the patronage of the Automobile Club of France.
- July 10.—Start of the Elimination National Balloon Race from Kansas City, Mo.
- July 11.—National Grand Circuit Hill-climbing Contests at Worcester, Mass.
- July 12.—Start of the Indiana Automobile Manufacturers' Four-State Indiana Car Tour from Indianapolis.
- July 14.—Reliability Contest for Commercial Vehicles, under the auspices of the Quaker City Motor Club.
- July 17, 18 and 19.—Reliability Run, under the auspices of the Cleveland News.
- July 14.—Start of the Marblehead Motor Boat Race from Huntington Harbor, L. I.
- July 17-22.—Second Annual Reliability Tour of the Wisconsin State Automobile Association, starting from Milwaukee.
- July 22.—Start of the Motor Boat Race for the Reciprocity Cup, from Gravesend to Halifax, N. S.
- July 22-August 5.—Thousand-mile Aeroplane Contest around Great Britain, under the auspices of the Royal Aero Club of Great Britain, for a \$50,000 prize.
- July 29.—National Grand Circuit Meeting in Philadelphia, Pa., at Belmont Park.
- August 1.—Commercial Vehicle Reliability Run, under the management of the Chicago Evening American.
- August 8-9.—Western Power Boat Regatta at Peoria, Ill.
- August 8, 9 and 10.—1911 Regatta of the Great Lakes Power Boat League at Detroit, Mich.
- August 12.—National Grand Circuit Meeting in Detroit, Mich.
- August 12.—Reliability Run, under the auspices of the Quaker City Motor Club.
- August 16, 17 and 18.—Elimination Races to select American representatives for the Harmsworth trophy race for motor boats, Huntington Harbor, L. I.
- August 24, 25 and 26.—Races for the possession of the Harmsworth (motor boat) Trophy, to be held in Huntington Harbor, L. I.
- August 25-26.—National Stock Chassis Road Races under the management of the Chicago Motor Club over a course near Elgin, Ill.
- August 28 to September 4.—Second Annual Harvard-Poston Aero Meet at the Squantum, near Boston, Mass.

AJAX TIRES

More Guaranteed Mileage at No Greater Cost

AJAX TIRES are the ONLY tires on the market GUARANTEED FOR 5000 MILES SERVICE. Compare the price of AJAX TIRES with that of other makes.

Dealers can sell AJAX TIRES—WITH AN HONEST GUARANTEE FOR 5000 MILES—AT NO HIGHER PRICE than other standard tires, which are guaranteed for not more than 3500 Tire Miles.

Fifteen Hundred Additional Guaranteed Tire Miles—A SAVING OF THIRTY PERCENT IN GUARANTEED TIRE COST—cannot help but bring good tire business to the AJAX dealer.

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Factories: TRENTON, N. J.

Branches in Principal Cities

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Automobile Driving Self Taught

BY

THOMAS H. RUSSELL, M.E., LL.B.

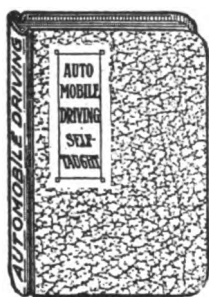
AUTHOR OF

"Ignition, Timing and Valve Setting"

"Automobile Motors and Mechanism"

"Motor Boats: Construction and Operation"

CONTENTS



Automobile Driving—General Instructions—Starting the engine—Advancing the spark—How to change speeds—Use of the clutch—The control levers—Principles of gear changing—The engine as a factor—Use of brakes—Causes of irregular firing—To avoid sideslips—The tire bill—Gear missing in speed changes—Engine thumping—Driving on the brake—How to get the best work out of a motor—Skidding or sideslip.

Self-tuition in driving continued—The initial trip—Charging tanks—Starting the engine—Manipulating the control—Correct mixture—Changing gear—On the top speed—Withdrawing the clutch—Coasting slopes—Picking up the drive—Driving on the reverse—Entering and leaving the garage—After the drive—Road risks.

Another lesson in driving—Learning the steering and control—Preliminary attention to car—Starting—Changing speed—Coasting, braking and reversing—Sources of sideslip—To avoid skidding—Non-slip devices—Choice of track—Speed limits—Conduct in emergencies—Driving through city traffic—Difficulty in starting—Loss of power—Care and maintenance of motor cars—Care of a car on a tour—Laying up a car—Gasolene hints and tips, etc.

PRICE: Flexible Leather, \$1.50

Cloth Binding, \$1.00

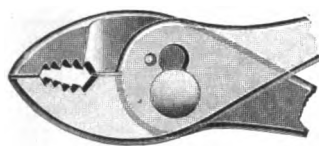
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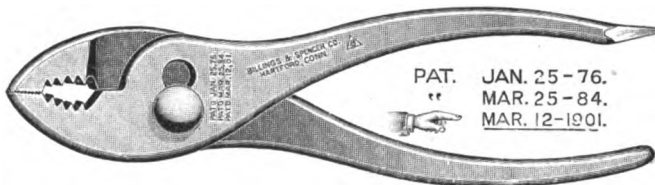
103 Park Ave., New York

- September 1.—Commercial Vehicle Reliability Run, under the auspices of the Chicago Motor Club.
- September 1.—Reliability Contest in Oklahoma, under the auspices of the Daily Oklahoman.
- September 4.—Track Race Meet at the Denver Speedway, under the management of the Denver Motor Club.
- September 4.—National Grand Circuit Meeting at the Indianapolis (Ind.) Motor Speedway.
- September 4.—Start of the Motor Boat Carnival at Huntington Harbor, L. I.
- September 4 to 9.—Annual Motor Boat Carnival, under the joint auspices of the National Association of Engine & Boat Manufacturers and the Motor Boat Club of America at Huntington Bay, L. I.
- September 7, 8.—Track Race Meet at Philadelphia, under the auspices of the Philadelphia Automobile Trade Association.
- September 9.—National Grand Circuit Meeting at the St. Paul (Minn.) State Fair.
- September 12, 13.—Race Meet of the Michigan State Automobile Association at the Grand Rapids track.
- September 15.—Track Race Meet at the Appalachian Exposition at Knoxville, Tenn., under the auspices of the exposition management.
- September 16.—National Grand Circuit Meeting at the Syracuse (N. Y.) State Fair.
- September 18, 19 and 20.—Commercial Vehicle Contest, under the auspices of the Chicago Motor Club.
- September 23.—National Grand Circuit Road Race at Lowell, Mass.
- October 3, 7.—Annual Race Meet at Danbury, Conn., under the auspices of the Danbury Agricultural Society.
- October 7.—National Grand Circuit Road Race in Fairmount Park, Philadelphia, Pa.
- October 9-13.—One thousand mile reliability run of the Chicago Motor Club.
- October 16, 17 and 18.—Reliability Run, under the auspices of the Motor Club of Harrisburg, Pa.
- October 20 and 21.—National Grand Circuit Meeting at the Atlanta (Ga.) Speedway.
- November 1.—Race Meet, under the auspices of the Waco, Tex., Automobile Club, at Waco, Tex.
- November 2, 3, 4.—Reliability Run under the auspices of the Quaker City Motor Club.
- November 3.—Light Car Race at Savannah, Ga. Part of National Racing Circuit.
- November 7, 10.—Road Race, from Los Angeles, Cal., to Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.
- November 9, 10 and 11.—Track Race Meet, under the auspices of the San Antonio Automobile Club at San Antonio.
- November 10.—Track Race Meet at Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.
- November 30, December 2, 3, 25, 26.—Race Meets on the mile saucer board track at Los Angeles, Cal.

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This cut shows the patent wire cutter located near the bolt of the Plier. The only plier on the market with this patent device.

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The plier has been on the market 30 years. Inasmuch as we guarantee them, great care is exercised in their manufacture. There are many imitators, but none equal for general utility. Always ask for the GENUINE B. & S.

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EVERY AVAILABLE SPACE UTILIZED

Made of pressed steel. Carries two spare shoes, six inner tubes, tools and spare parts. Thief, dust and waterproof—opened and locked in a minute. Fits any car, side or running board, or on rear, or on top. Does not rattle. Price \$25. f. o. b. Factory. Sold by entire trade. Send for Catalogue No. 3.

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"Evans Models Hele-Shaw" Clutch
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Revised and enlarged 1911 Edition—The largest and most practical work published. Used by all up-to-date automobile schools as their every-day textbook. 16mo, over 650 pages and over 330 illustrations. Full Leather Limp, Round Corners, Red Edges, Price, \$2.00.

At the present time nearly all automobile troubles or breakdowns may, in almost every case, be traced to the lack of knowledge or carelessness of the owner or operator of the car, rather than to the car itself.

The automobile hand book is a work of practical information for the use of owners, operators and automobile mechanics, giving full and concise information on all questions relating to the construction, care and operation of gasoline and electric automobiles, including road troubles, motor troubles, carburetor troubles, ignition troubles, battery troubles, clutch troubles, starting troubles. With numerous tables, useful rules and formulas, wiring diagrams and over 320 illustrations.

Special efforts have been put forth to treat the subjects of ignition, and ignition devices, in a manner befitting their importance. A large section has been devoted to these subjects, including batteries, primary and secondary, magnetos, carburetors, spark plugs, and in fact all devices used in connection with the production of the spark. Power transmission is thoroughly discussed, and the various systems of transmitting the power from the motor to the driving axle are analyzed and compared.

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MOST complete and up-to-date works ever issued on the operation, care and repair of automobiles. No experiments suggested whatsoever. The practical text pertains to present day methods—methods which produce a maximum result.

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If both volumes are ordered at one time, price \$3.00.

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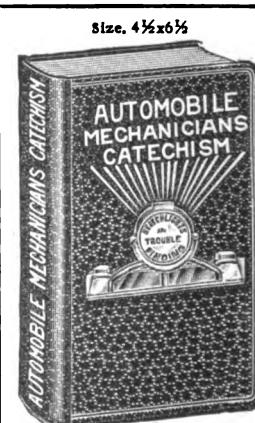
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New York, N. Y.

THE AUTOMOBILE MECHANICIAN'S CATECHISM. Over 400 Questions and Answers. Illustrated with 3 large folding charts with all parts fully and correctly numbered. By Calvin F. Swingle, M. E. Pocket Edition, 16mo. Full Leather, Round Corners, Red Edges, Stamped in gold, over 100 pages. Price, \$1.25.

Adapted for use in the technical school, the workshop or on the road. The questions asked and the answers given in this catechism will be found to be an indispensable guide to quicker and better work by the automobile student, no matter whether that work be in the school, the shop, on the road, or before the examining board of engineers.

The questions and answers have been carefully compiled, and they are presented in a clear and concise form, covering every detail of automobile work, a reliable instructor and assistant to the student and mechanic, while to the chauffeur the book is a most valuable guide and helper, giving correct method for handling the machine under all conditions of service and what to do in case of breakdowns. The demand for skilled mechanics in the field of automobile work is constantly increasing, and especially so regarding the operation of the machines. Quite a number of the states and larger cities already having rigid laws requiring chauffeurs to undergo a strict examination before a board of mechanical experts before being licensed as automobile (chauffeurs) drivers.

Picture in your mind a book that will answer and answer correctly any question or difficult problem that may arise in your daily work, whether you are a student, or expert of years' experience—you then have a good conception of what this is. Imagine yourself up against one of the thousand and one problems that confront a mechanic, or with the final examinations facing you, with some knotty problems that you know are bound to come, upon which you want some special information, and you then realize the true value and necessity of this work. It is no luxury, but a necessity.



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"Firestone"

STOCK TIRES WON

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International Sweepstakes Race with three of the original Firestone regular stock tires on Ray Harroun's victorious Marmon still running and in perfect condition at the finish.

Cars that used competing tires were compelled to make as high as fifteen stops for tire changes

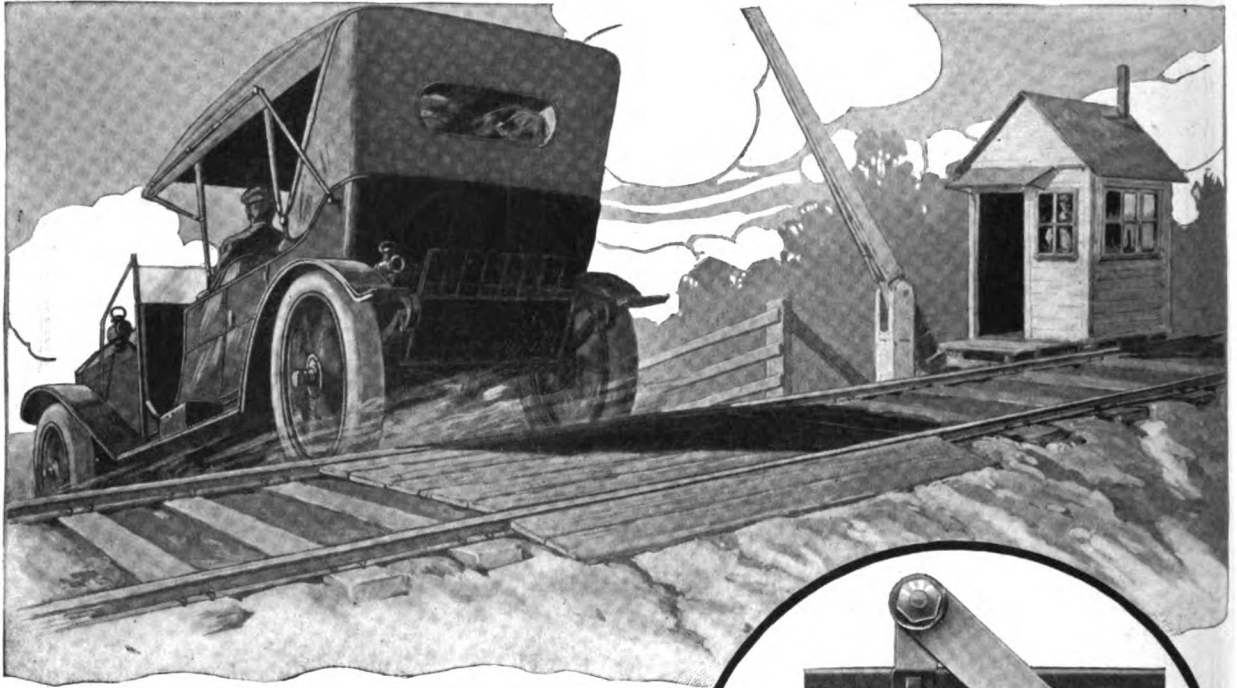
*Firestone Tires Outclass
All Others in Durability*

USE THEM ON YOUR OWN CAR

THE FIRESTONE TIRE AND RUBBER CO.
AKRON, OHIO

"America's Largest Exclusive Tire and Rim Makers"

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How Does Your Car Stand the Racket ?

2000 moving parts—that's about the average to-day in an ordinary automobile.

Harm to one of these delicate moving parts harms the high-strung efficiency of the other 1,999.

And yet—the average car, day after day, crashes and bangs over ruts and bumps—jolting and jarring, rocking and wracking, as if harm were out of the question.

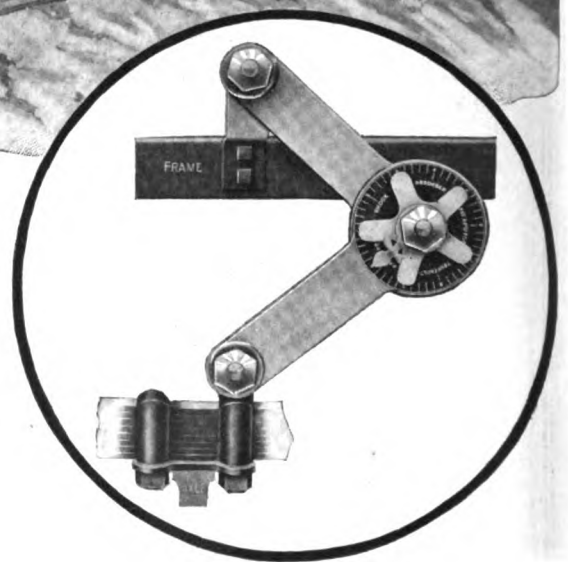
Every time a 3,000-pound car, at 20-mile speed, meets a road-

bump 2 inches high (such as an ordinary cross-walk) it receives a blow of 4,000 pounds.

How do cars stand the racket? The answer is this: *They don't.*

Compare the swift depreciation of an automobile with the long useful life of a locomotive. The automobile is constantly *shaken*. The locomotive is never shaken at all.

The worst part of the punishment your car receives is avoided by the



Truffault-Hartford **SHOCK ABSORBER**

These Shock Absorbers take the sting out of jolts and jars. They perform no miracles. They won't make your car last forever. But it's a fact that they actually reduce depreciation *one-half*.

They keep your car on the ground. They save their cost over and over on repairs alone. And they double the life of your tires.

Even if money-saving is no object, Truffault-Hartfords are

the most important feature of your car from the stand-point of *added comfort* alone. For they make bad roads seem smooth. Until you ride with these Shock Absorbers you won't know what *real* motoring pleasure is like.

These are the reasons why 23 leading cars now include Truffault-Hartfords in their regular equipment.

People who *know* refuse to buy or to use a car without them.

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"JUNIOR," for smaller cars weighing 1,200 to 1,800 lbs. 25
"JUNIORETTE," for small cars like the Ford, A A Maxwell, Hupmobile, etc..... 15

The Hartford Auto-Jack "A CRACKERJACK"

With its *short* stroke and *long* leverage, it turns *man's* work into *child's* play. 30 pounds pressure on this Jack outlifts 90 pounds pressure on an ordinary Jack. Built to last. To buy any other Jack is a mistake.

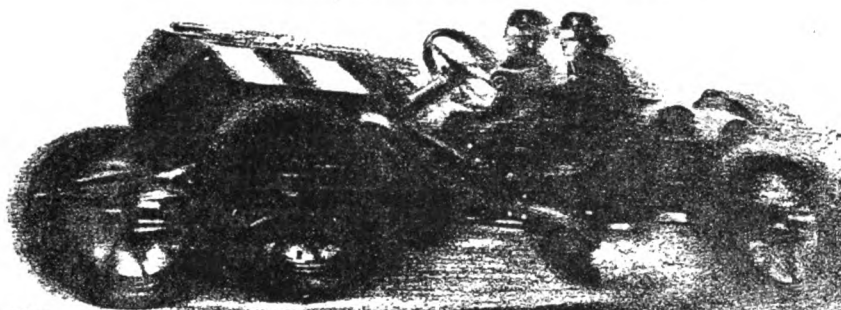


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"The Easiest Riding Car In The World"



Wins the International Sweepstakes 500 Mile Race

The Greatest Speed Event Mankind Has Ever Known

**Time for the 500 Miles, 6 hrs. 41 min. 8 sec.
Averaging 74.62 Miles Per Hour**

The Fastest Time Ever Made in Any Long Distance Speed Contest

Ray Harroun, driving the Marmon "Wasp," wins against a picked field of the fastest and highest priced cars in the world in the greatest race ever driven.

This is a Fitting Climax to the Longest and Most Remarkable List of Important Racing Victories Ever Won by Any Make of Motor Car.

There Can Be But One Logical Conclusion That Will Interest the Buyer—Marmon Design, Marmon Materials, Marmon Workmanship *Must Be Right.*

The Marmon hood was not raised during the long grind of 500 miles. Not a drop of new water was put in the radiator. Perfect lubrication and no mechanical trouble of any kind. There were but four tire changes—three of the original tires finished the race.

Nordyke & Marmon Company

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SIXTY YEARS OF SUCCESSFUL MANUFACTURING

REMY MAGNETO WINS

500-Mile International Sweepstakes Race

*World's Greatest Motor Speed Competition
Proves Triumph for Remy Ignition*

Ray Harroun made the most sensational victory known to automobile racing history on the Indianapolis Motor Speedway, May 30th, when he whipped the Remy-equipped Marmon "Wasp" over the brick track for 500 miles at the savage, world's record-breaking

Average of 74.62 Miles Per Hour

Perfect Ignition—Remy Ignition was a vital factor in that Marmon triumph over the best cars of the great factories of two continents.

Never was the unfailing reliability, the greater efficiency of an ignition system demonstrated in such a striking and conclusive manner.

Never was the design, the materials, the construction of an ignition system subjected to such a relentless strain, never did any ignition device meet the unusual demand in such a satisfactory manner as did the Remy Magneto on Harroun's car.

Not a car equipped with a Remy Magneto suffered the slightest ignition trouble. Every car equipped with the Remy showed its superior speed and staying qualities.

Charles Merz with his Remy-equipped National showed the way for both his teammates who used other ignition.

Merz finished in sixth place in the race. And the Remy supplied the spark of motor life throughout the long grind without a miss.

Every Remy-equipped car was running when the race ended.

The Remy-Equipped Velie qualified for the big race. The other Velie with other ignition did not show the required speed.

And the Remy Magneto that gives such faultless service under the conditions like those which reigned upon the speedway will find nothing in ordinary automobiling to bother it for a moment.

Remember, Burman and the Remy-equipped Blitzen hold all World's Sprint Records.

**Remy Ignition Supremacy Proven Again and Again in
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NEW YORK · BOSTON · DETROIT · CHICAGO · KANSAS CITY
SAN FRANCISCO



Chalmers Cars are Champions



This monogram on the radiator stands for all you can ask in a motor car.

AROUND the edge of the radiators of Chalmers cars there is a bright blue line.

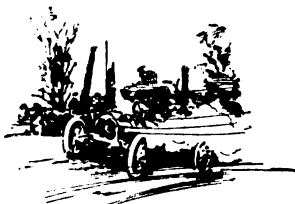
Chalmers stock cars, when sent into motor-ing contests, are always painted Azure blue, and from this they have come to be known everywhere as Chalmers "Bluebirds." These bright blue cars won, during several seasons of competition in all kinds of motoring events, more victories in proportion to the number of events entered than any other make of car.

Motor trade publications last year gave the Chalmers the title of "Champion Cars of the Year" in road racing. In 1910 our cars further justified the title by winning the Glidden Tour—the longest, hardest endurance contest ever held.

It is in commemoration of what Chalmers cars have achieved on road and track and hill that this blue line is placed on the radiators. It is a badge of distinction—a symbol of victory—something for every owner to take pride in.

Chalmers "30" \$1600
Chalmers "Forty" \$2800

Including Bosch Magneto, Prest-O-Lite tank, and gas lamps.

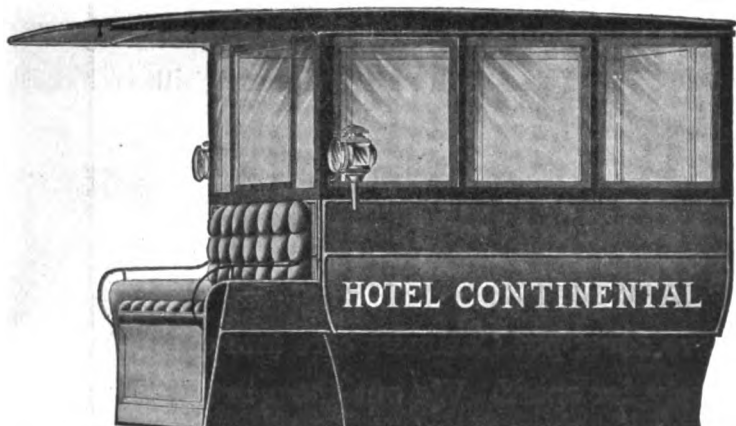
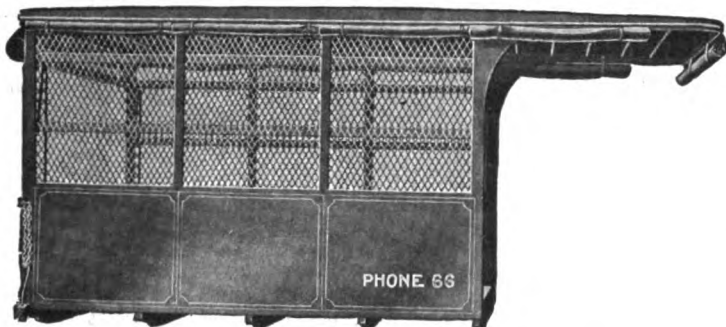
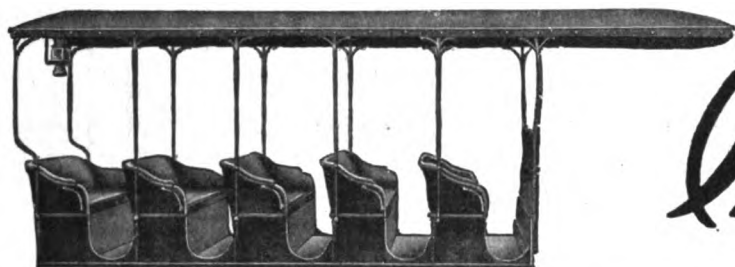


A Chalmers "30" won the Massapequa trophy in the 1909 Vanderbilt, setting a world's speed record for light cars of 58.5 miles per hour.

We have never put Chalmers cars into contests merely for sport. We put them in that they might be proved for what we claimed them to be—speedy, reliable and enduring cars.

Chalmers Motor Company
Detroit, Mich.

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Commercial Power Wagons

Special bodies for every purpose.

Dealers handling the *McIntyre* line are the leading dealers in their communities.

Because—

The *McIntyre* line is complete.

The price is right.

One sale produces other sales.

It is built on honor.

The Heavy Duty Motor has an automatic governor, which absolutely prevents overspeeding—the source of 90 per cent. of all truck troubles.

The owner, not the driver, controls the speed.

It is built for service.

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The *McIntyre* advertising campaign is the greatest newspaper publicity campaign ever applied to the exploitation of a commercial power wagon.

W. H. McIntyre Co.
AUBURN INDIANA

McIntyre

Commercial Power Wagons

have proven their adaptability to every commercial need. They have been aptly called the "World's Greatest Power Wagons." They are making good wherever they are in service.

There has never been a commercial power wagon made that—price considered—compares with the *McIntyre*

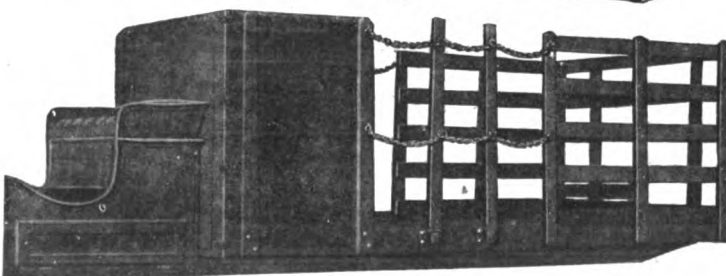
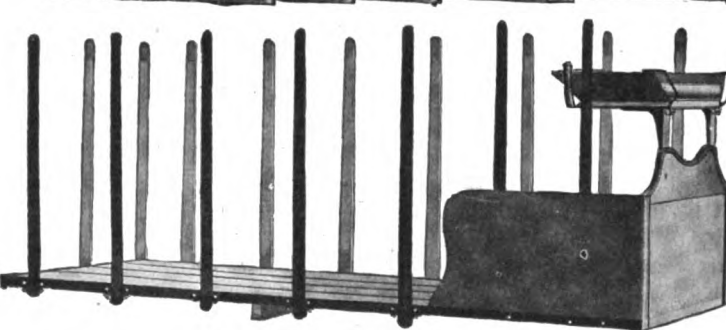
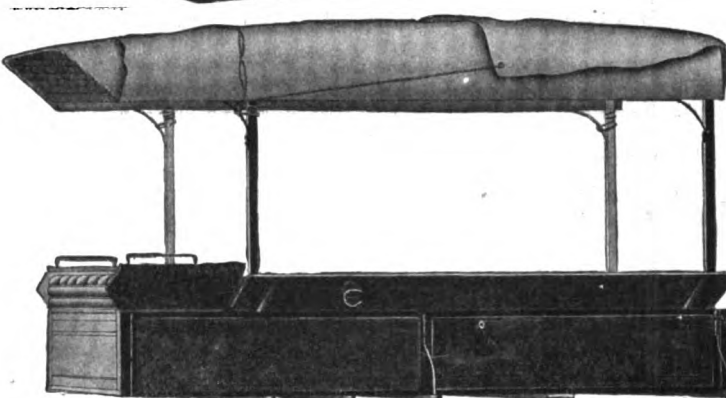
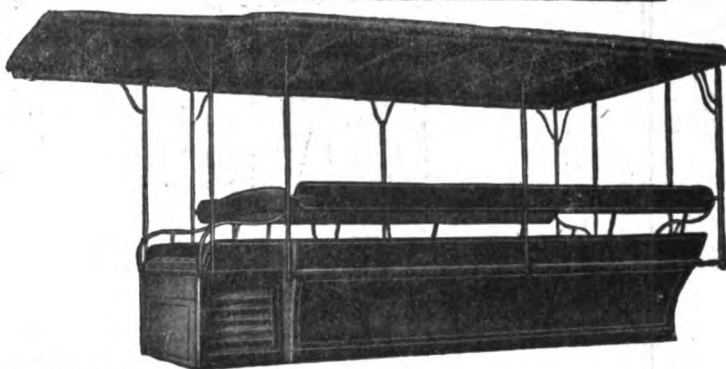
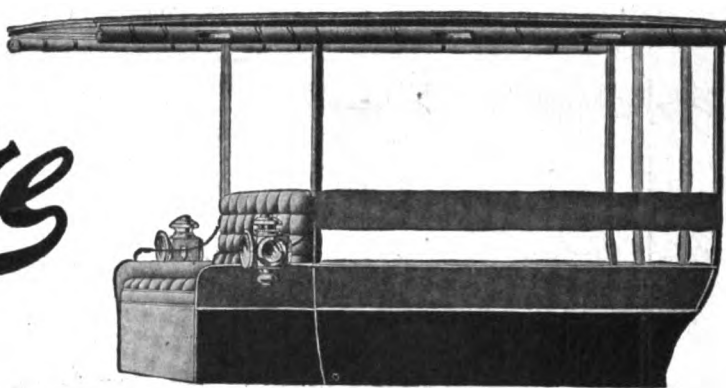
Note these specifications:

Capacity—2000 lbs.	Wheel Base—119 inches.
Tires—Solid rubber, 2½ inches.	Horse-power—24.
Cooling—Water.	Speed—2 speeds forward; 1 reverse; 4 to 12 miles an hour.
Stroke—4¾.	Bore—5½.
Mileage Capacity, per gallon—12 to 15 miles.	Ignition—Dual system; magneto and dry cells.
Equipment—3 oil lamps, horn, tools and jack.	Net Weight—2200 lbs.

Price \$1350

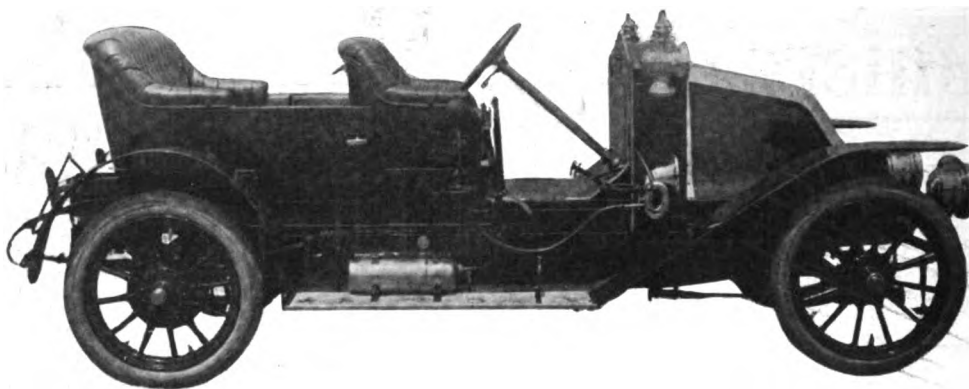
Send for particulars regarding the *McIntyre* complete line; also for information regarding our newspaper campaign conducted over the name of the dealer in the dealer's own city.

W. H. McIntyre Co.
AUBURN INDIANA



RENAULT

The Car "Guaranteed For Life"



25-35 H. P. "American Special" Chassis, price \$5,300. Immediate deliveries on all types

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PAUL LACROIX, Gen. Mgr.

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**DETROIT
CLEVELAND
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FALLS**

THE COAST LINE
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MACKINAC





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PT. HURON
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ST. IGNACE**

THE LUXURY OF A LAKE TRIP

Where will you spend your summer vacation? Why not enjoy the charms of our Inland Seas, the most pleasant and economical outing in America?

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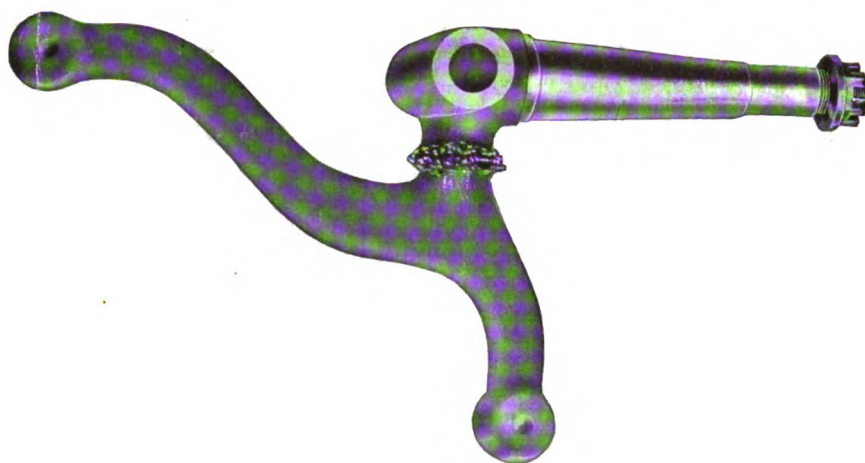
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Vol. XXII.

NEW YORK, JUNE 11, 1911

No. 10

11th Year. [No. 556]



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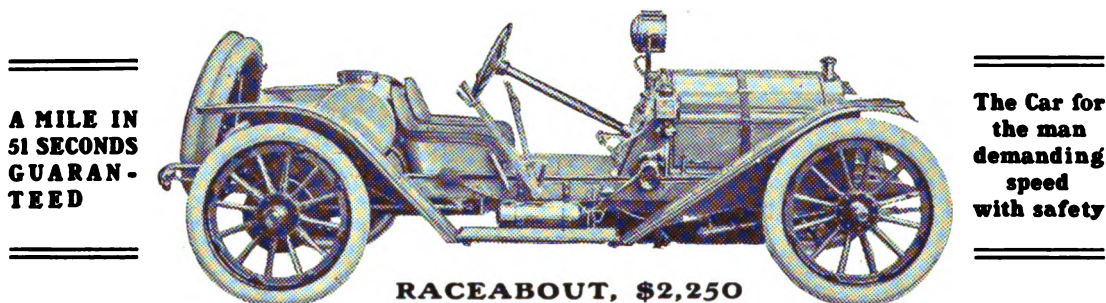
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Automobile Topics

Illustrated

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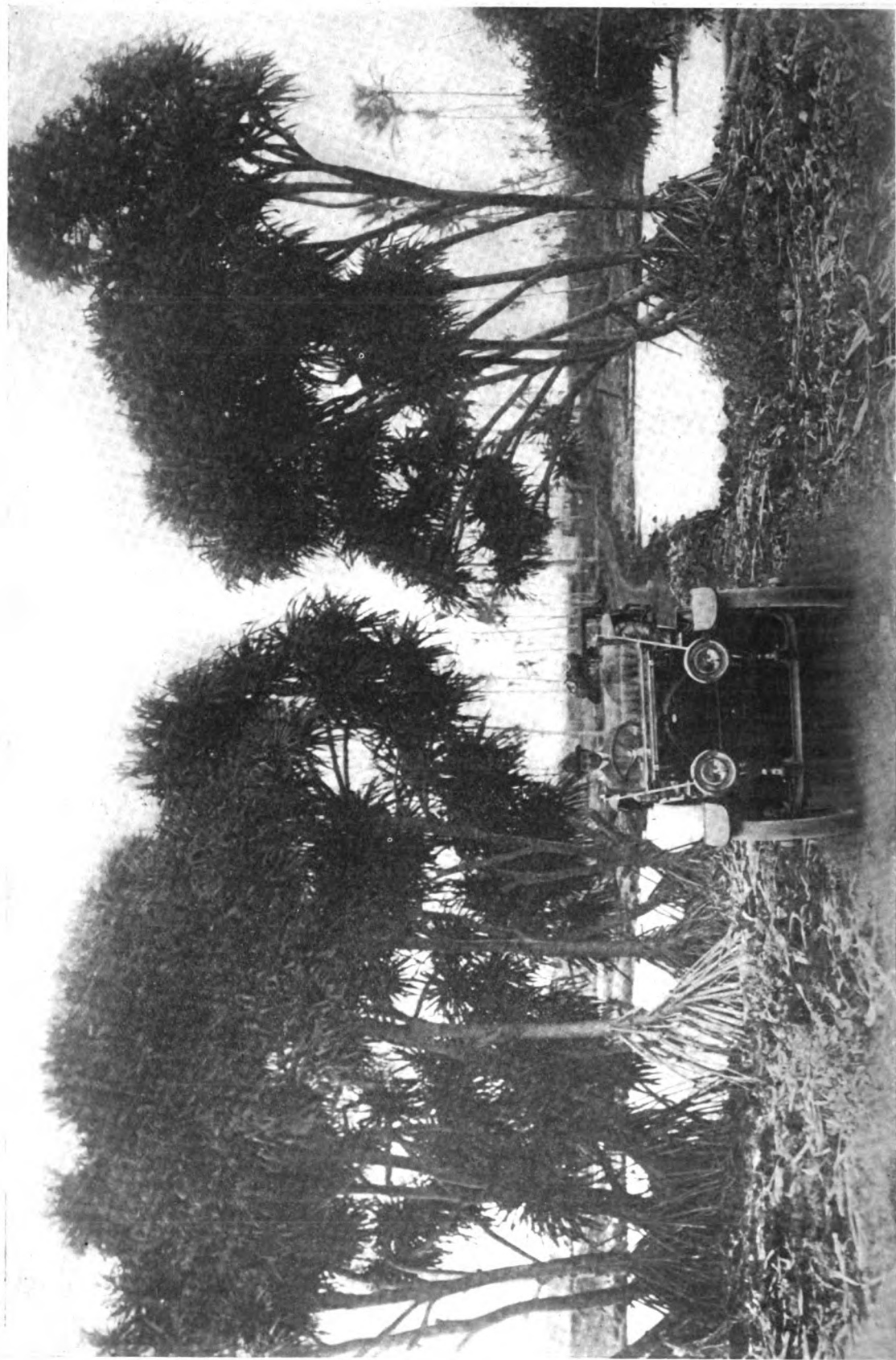
INTERNATIONAL NEWS COMPANY

Breams Buildings, Chancery Lane, London, E. C. Stephan Strasse, No. 18, Leipzig

Entered at the Post Office at New York as Second Class Matter

PRICE, 10 CENTS A NUMBER; \$2.00 A YEAR

FOREIGN SUBSCRIPTIONS, \$4.00 (GOLD) POSTPAID



HAWAII AN IDEAL TOURING GROUND—W. C. KENNEDY, OF SAN FRANCISCO, ON THE PALM ROAD IN A MARMONT CAR

Automobile Topics

Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Vol. XXII.

NEW YORK, JUNE 10, 1911

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TOPICS

IN THE MINDS of some people who have not followed the matter closely the indignation of Commissioner Smith of New Jersey over the attempt of other States to "coerce" his beloved commonwealth may appear righteous and well founded. As a matter of fact it is poppycock, pure and simple, and the Jerseymen who are expressing anger at the Commissioner's autocratic action are praiseworthy as well as sensible. To demonstrate this one need only make a plain recital of the facts.

THE STATES which are "warring" against New Jersey—New York, Pennsylvania, Massachusetts, etc., have in force a policy of reciprocity, in consequence of which they permit the motorist residents of other States to come into, say New York, without let, hindrance or question, *provided* they have complied with the regulations of their States and that the latter extend to New Yorkers reciprocal privileges. For example: Pennsylvania says that New York motorists can come into the Keystone State under New York license, etc., because New York permits Pennsylvania motorists to enter New York under Pennsylvania license. That is, furthermore, neither State requires from the other any further action that is required by the laws of each in respect to its own residents. In short, exactly reciprocal relations exist, and, to all intents and purposes, the boundary line between the two States is

obliterated. Motorists can cross it freely in their cars as well as out of them, and there is no one to act as challenger or inquisitor.

NOW LET US STATE New Jersey's position toward motorists residing in other States: To all such she says, If you wish to cross our border you must either take out a New Jersey license and give bond, or you must take out a provisional license, good for eight days only, price \$1, give bond for your good behavior and in general act as if you are under suspicion. As to your New York or Pennsylvania license, we do not recognize it, nor does it exist, so far as we are concerned. Naturally New York, Pennsylvania, etc., do not regard this as reciprocity and, like *Oliver Twist*, ask for more. New Jersey refuses. Thereupon New York, Pennsylvania, et al., say: If you won't reciprocate we will withdraw privileges from New Jersey motorists, and they must register with us. New Jersey, through Commissioner Smith, makes a face, and exclaims that it will withdraw its eight day licenses. Then the seashore hotel men and other Jerseymen who can see beyond the end of their noses become alarmed and foresee that if this sort of thing goes on every man's hand will be against Jersey and that State will suffer in consequence. To cap it all, Commissioner Smith becomes indignant and wants everybody to applaud him and cry, "Well done, thou good and faithful servant!"

THE DANGER of planning too ambitiously must be apparent by now to the racing authorities in the American Automobile Association. First the palace car adjunct went by the board and now the national circuit itself follows suit. There will be some track racing, of course, but just how much, or under what circumstances, is what is puzzling some would-be promoters.

POOR OLD GLIDDEN TOUR! It has been "postponed" until fall, and there are not wanting cynics who shrug their shoulders and assert that when fall comes another postponement will be found necessary. Well, the famous trophy has had a long inning and has attracted plenty of attention in all that time. It was useful for a number of years, and even now there are people who believe that its time to shuffle off the stage has not yet come. Perhaps they are right, and then again they may be wrong. To the ordinary observer it seems as if the event has fallen between two stools: It is neither one thing nor the other—a race or a tour. The amateur, or owners, part of it petered out long ago, and the trade completion it assumed jarred on some people. Then the annual rumpus over the awarding of the trophy disgusted some people and lessened the number of competitors. Perhaps the sorriest man to-day is the donor of the trophy. He will be sorry indeed to see the end—if it is the end.

ONE MORE ILL has been laid at the door of the motor vehicle. Cancer is on the increase, and one reason for this undesirable condition of affairs it is asserted, is the automobile, which helps to raise the cancer death rate. It is true that it has co-operatives—the abnormal use of alcoholic liquors and the consumption of meat without outdoor exercise to offset its evil effects. "It is the day of overeating and automobile rides," said one official, commenting upon the prevalence of cancer today in New York, as well as in other parts of the country. "People eat too much meat, drink too much alcohol, and then try to exercise by riding leisurely about in automobiles. That, however, is poor exercise to offset the effects of overeating and overdrinking." This is rather a small peg on which to hang another

indictment of the automobile. There are plenty of other ways to acquire cancer than in automobiles.

WHETHER OR NOT yearly models will continue to be turned out by the great majority of manufacturers is something that no one can say at this time. Views will continue to differ, each maker deciding what is best for his particular trade. There is something to be said on each side, and some fallacious arguments have been produced to bolster up one or the other view of the matter. It is perfectly true that piano makers, to take one of the most conspicuous examples, abstain from bringing out yearly models, preferring to place a model on the market whenever improvements or important changes are evolved by the designing department. Yet pianos are not a season product, but are sold and used the year round. The automobile, on the other hand, has a season—a steadily lengthening one, to be sure, but nevertheless, a season. With the departure of winter and the coming of spring, motorists throng the roads, buying becomes brisk, deliveries are made without further delay, and the season is fairly on.

THERE WAS CONSIDERABLE EXCITEMENT among promoters of automobile sports in the East during the last month or so, or since the announcement by the managers of the evaporated national racing circuit that officials at meets on the circuit were to be provided by the promoters of this affair and at an expense of \$1,500 to the promoter of the individual meet. Immediately after this little piece of information became public there was a howl from various sections of the country. Philadelphia led by declaring its Fairmount Park race would be managed by officials selected by themselves. New York tradesmen wanted to promote races at a local track, but when they heard of the \$1,500 proposition they threw up their hands. The abandoning of the circuit means that the \$1,500 official fee is dropped also and promoters in general are pleased. The fact that the fee, in addition to bringing competent officials to a meet also secured representative entries is recognized, but it was too steep for the ordinary promoters.

National Racing Circuit is Abandoned

There will be no National Racing Circuit this year. After all the planning and preparation that has been going on during the past few months the ambitious scheme has been abandoned, following the giving up of the proposal to send the racing cars, drivers, etc., around the circuit in Pullman palace cars. The fact that everything was off came this week, following a pessimistic feeling that had been in evidence for some little time.

The announcement that the circuit had been abandoned did not come as much of a surprise to those who have been following its promotion closely, for it was recognized that the project was an impractical one from many standpoints. The dropping of the circuit is not expected to interfere with the sport of racing in the country, but on the other hand will do a lot to settle matters. While the prospects of the circuit were in the air promoters were rather shy on taking chances with contests, not knowing whether they could secure the entries necessary to make a race meet, or any other kind of an event, successful. As the matter stands now things are to go on just as they did before the circuit was proposed.

During the last week or so there has been considerable talk about the arrangements that had been made of having the same officials in charge of each meet on the circuit. It was arranged that for their services the promoters were to pay \$1,500. S. M. Butler, chairman of the Contest Board of the American Automobile Association, is very anxious to have this matter cleared up and declared that any talk of the plan being a "hold-up" is ridiculous. Mr. Butler said that now that the circuit is abandoned the promoters may select their own officials, which have to be approved by the A. A. A. The idea of the set of circuit officials originated with the manufacturers, he said, who wanted big meets handled by competent men. Mr. Butler said that under the plans of the circuit a promoter would have been provided with twenty-five or more entries, representing the best competition in the country, and therefore the proposal that he allow the circuit officials to have charge and to pay for their services was a good one as far as he was concerned.

The reason for the abandoning of the cir-

cuit is attributed to the lack of organized support from the manufacturers. There was no co-operation. While any number of manufacturers had declared their willingness to enter cars in the circuit when it came to closing contracts it was a different thing. Various manufacturers wanted to go into various events, some favored road races, others track contests and still others hill climbing events. When the circuit program was shown them they selected the events they wished their cars to participate in and refused to have anything to do with the other events on the circuit. The result was that there was no organized support of the project and the promoters had to throw their hands up in disgust.

A great many of the events scheduled to be held as circuit contests will be run just the same as if the project had materialized. Mr. Butler was informed by the Automobile Club of Port Jefferson that the road race at Riverhead, L. I., scheduled to be held by them this year had been dropped because of the expense attached to running it. The Port Jefferson hill climb, which was to be held on July 4, has also been abandoned for the same reason. It is likely, however, that New Yorkers will be treated to some automobile sport during the year as a combination, of which E. A. Moross is prominently connected, is said to have secured a lease on the Brighton Beach track where a series of races, including a 24-hour event, will be held. Short distance races will probably be run there on July 4.

While nothing definite has been decided it is possible that the Lowell road race will also be dispensed with this season. While at Indianapolis Mr. Butler had a conference with Mr. Hines, who was prominent in the promotion of past Lowell races, and he told him that the Bay State people had better hurry and announce whether they were to promote a race this year or not. As yet no announcement has been made nor has a request been made for a sanction so it is taken for granted that the event has not received the support of previous years.

There will be three automobile races at the Orangeburg track on July 4 at a meet given by the Rockland County (N. Y.) Driving Club.

Glidden Tour Postponed Until Fall

The eighth annual national, or Glidden Reciprocity tour, as it is called this year, has been postponed from June 21 to 29 until early in the fall, probably during the first week in September. This announcement was made last week by the Contest Board of the American Automobile Association, which has the tour in charge, and the cause of the postponement was given as the inability of the manufacturers to complete sufficient 1912 models to enter one of them in the contest at such an early date as was originally scheduled for the event.

When the tour was first announced it was specified that a minimum of thirty cars had to be secured if the tour was to be held. When the postponement was announced twelve cars had been nominated for the tour. Manufacturers will now have until the first of August to make entries in the event, which is scheduled to go over a route leading from Washington, D. C., to Ottawa, Can. Chairman Butler, of the A. A. A. Contest Board, said that while there would undoubtedly be sufficient entries, unless the required thirty were at hand the event would not take place.

A large number of manufacturers, having disposed of their 1911 output, could not enter 1912 models for the tour because of the provision in the stock car requirements of the 1911 rules, which made it necessary that at least twenty-five of the particular model entered be actually completed. The manufacturers not being in a position at this date to comply with this requirement, many makers of cars were ineligible for entry.

Mr. Butler said he understood that many of the manufacturers were making radical changes in their 1912 models over those of 1911 and that for this reason those who had them did not want to enter any of the latter design.

The announcement of the postponement caused a deal of surprise among the motorists, especially as unusual arrangements had been made for the entertainment of the tourists, particularly in Canada.

The French Canadians were anxious to entertain the contestants in the annual classic, and a number of committees have already been appointed in various Canadian towns through which the route was laid.

Governor Tener Signs Sproul Bill

The Sproul main highway bill, providing for the connection of every important center of population in the State of Pennsylvania by modern-built highways, was signed the past week by Governor Tener, who at the same time named E. M. Bigelow, of Pittsburg, as Highway Commissioner.

The Sproul bill reorganizes the State Highway Department, providing for a commissioner to serve for four years at \$8,000 annually. He is to devote his whole time to the duties of his office and must furnish \$50,000 bond.

The Governor will also appoint under this law two deputy commissioners, one of whom shall be a competent engineer, each at salaries of \$6,000 per annum. Other appointments to be made by the Governor are those of auditor, who must be an expert accountant, at \$3,000, and a chief engineer, who shall be a civil engineer, at \$7,000.

There are 296 routes, covering about 7,000 miles, outlined in the law, and complete authority is given to the commissioner for taking

over these roads and making changes. Those highways designed as State highways in the act shall be taken over by the department from the several counties and townships and shall be constructed and maintained at the expense of the State.

While no other appointments have been announced, it was stated that Highway Commissioner Joseph W. Hunter could have one of the deputyships or could become the chief engineer of the reconstructed department if he so desires.

Rain Spoils Orphans' Outing

Because of the disagreeable weather conditions the annual outing given the Brooklyn, N. Y., orphans by the Long Island Automobile Club, had to be postponed from last Tuesday, June 6, to Wednesday, June 14. On the latter date the same program that was originally scheduled will be carried out. Luncheon at Feltman's and sight-seeing at Luna Park, at Coney Island, are among the features of the outing.

New Jersey Wars on Other States

It is very likely that New York motorists will shortly be denied the eight-day touring privilege in New Jersey, for the efforts of Secretary of State Lazansky to be allowed to issue other than yearly licenses to non-resident motorists have not been successful as yet. Last week Attorney General Carmody, of New York, gave an opinion confirming that given by former Attorney General O'Malley, in which he held that the Secretary of State has no power under the Callan automobile law to issue temporary licenses to non-resident automobilists. This means that New York cannot reciprocate with New Jersey in the matter of temporary licenses.

Already New York motorists have been inconvenienced by the attitude of the New Jersey officials regarding the eight-day license, and several hundred who, during the last week or so have applied to the deputy commissioners in New York City for such licenses have been told that they could not procure them, as the deputies had run out of their supply. This was taken as a move by the New Jersey authorities to show that they meant business when they declared they would revoke the privilege if New York did not reciprocate.

The action of Commissioner Smith in recently revoking the temporary license privilege to Pennsylvania and Delaware motorists has met with a storm of protest from tax payers in New Jersey, particularly from those at the seashore resorts, such as Atlantic City. The hotel men at this city have started a movement to enlist the support of Governor Wilson to obtain a revocation of the order abolishing the tourist privileges to motorists of these two States. Commissioner Smith is just as determined that residents of the States that do not reciprocate in precisely the same peculiar way that New Jersey does should not be afforded any more courtesies than New Jersey motorists receive in their States. In speaking of the action of the Atlantic City hotel men this week, Mr. Smith became bitter against those who seek to have New Jersey refrain from embarking upon a policy that means war between it and every other State. He said:

If the Atlantic City hotel men, with any other hotel men or any citizen who may join with them in such a movement, would spend only a small

percentage of the energy necessary to accomplish such a result in attempting to obtain reciprocity, not humiliation and insult for New Jersey motorists—to obtain fair treatment instead of coercion and bulldozing—the whole problem would be speedily solved.

Let the hotel men unite with all loyal Jersey men in saying to the domineering spirit of Pennsylvania, and New York also if that State follows Pennsylvania's course:—"We want your company and your good will, but not at the price of humiliation and oppression of the motorists of our own State, and if you want reciprocity you must reciprocate."

The threat of coercing me, through the Governor's office, to rescind the order has no more effect than the greater effort to coerce on the part of the Pennsylvania authorities. That the Governor would lend himself to so unpatriotic an act is unthinkable. That I would yield to such an effort is impossible. Atlantic City hotel men, as well as the representatives of Pennsylvania motorists who have brought about the present conditions, might as well understand now as at any time that the only way to settle this question is to settle it right.

This can easily be done, even now, if the Pennsylvania authorities will apply the same "rule of reason" to their law with Jersey men that they apply when dealing with citizens of other States. Neither discrimination nor retaliation, nor coercion, even, either in the part of the aggressors in this affair or on that of their Atlantic City friends, will avail so long as I am at the head of this department.

Following is the notice that Commissioner Smith sent to the license agents representing New Jersey in reference to the matter:

For several months this department has been earnestly endeavoring to bring about reciprocal relations between the motorists of our own and many of the other States. Negotiations, having thus been begun and which are still pending in several States, have come to a fruitless termination with the States of Pennsylvania and Delaware. These States have absolutely refused not only to extend reciprocal courtesies to residents of this State, but against the earnest and often repeated protests of the department, they have not only discriminated in their legislation and in the interpretation and execution of their own laws against residents of this State, but in many instances have committed acts amounting to offensive persecution of New Jersey motorists, always ignoring the spirit of our legislation, which seeks to extend the courtesies of our roads to non-residents upon what the Legislature has regarded as the most favorable terms compatible with the best interests of our citizens.

It therefore becomes the duty of the department to exercise the discretion vested in it by the act and refrain from issuing eight-day licenses

to residents of Pennsylvania and Delaware. This order is not to be modified, except as these States or either of them, shall establish reciprocal relations with New Jersey.

Interesting Races at Elmhurst Track

Several thousand spectators were treated to some interesting competition on the half-mile board saucer track at Elmhurst, Cal., under the auspices of the Oakland Automobile Association on Decoration Day. The main event of the day was the fifty-mile race and this was won by Earl de Vore in a National in 53 minutes 6 seconds. Four cars started in the race and with the exception of one, each took a turn at setting the pace. Tire trouble bothered the contestants considerably. The Velie, with C. A. Thompson at the wheel, took the lead at the start and maintained it until the half-way mark, when a tire blowout caused it to lose valuable time. When it re-entered a Maxwell, driven by Earl Cooper, was in front with the National second. A Ford car, with Frank O'Brien acting as pilot, was the fourth car in the race, but it dropped out on the eighth mile. The Maxwell lost the lead through an accident when only three miles had to be covered to complete the race and the National went into front position, the Velie having withdrawn. Cooper returned in the race a half-lap back of de Vore, but had not covered a lap when he again had to drop out. The National finished the race before the Maxwell returned to the track.

The first event of the day was a fifteen-mile race for cars with piston displacement under 301 cu. in. and four cars participated. It proved an easy victory for Earl Cooper's Maxwell, with the Ford, driven by O'Brien, second. The time was 13 minutes 37 4-5 seconds. The other event was a five-mile race for stock cars costing under \$1,500, and a Stearns, driven by Booney, and a Ford, with Allen up, went to the tape. The Stearns won easily in 5 minutes 34 seconds.

Successful Decoration Day Race Meet

Automobilists of South Jersey and Pennsylvania were not without their automobile sport on Decoration Day, and while 85,000 or more spectators were watching the great struggle on the Indianapolis Speedway, another crowd was interested in the race meet of the South Jersey Motor Club at Alcyon

Park, N. J. More than 2,500 persons witnessed the New Jersey races, during which Mullen, in a Simplex, established a new track record for five miles when he covered that distance in 6 minutes 42 2-5 seconds. The results of the other races were as follows:

Five-mile Race—Won by George Reeves, Mitchell; second, Smith, Empire. Time, 8 minutes 45 seconds.

Ten-mile Race—Won by Wilson, S. P. O.; second, Oliver, Mercer. Time, 14 minutes 54 seconds.

Five-mile Motorcycle Race—Won by Wilson, Marvel; second, Vanderberry, Marvel; third, Bardly, Thor. Time, 8 minutes 12-5 seconds.

Ten-mile Race—Won by Haupt, Buick; second, Ringier, Mercer. Time, 14 minutes 1 second.

Five-mile Motorcycle Race—Won by Hollenbach, Marvel; second, E. H. Ruff, Harley-Davidson. Time, 7 minutes 43 seconds.

Five-mile Match Race—Won by Mullen, Simplex. Time, 6 minutes, 42 2-5 seconds.

Five-mile Match Race, Special Event—Won by Steinhauser, Bradley; second, Hollenbach, Marvel. Time, 7 minutes 9 seconds.

Special Match Race, Five Miles—Won by Oliver, Mercer; Robinson, in an S. P. O., quit at the end of three miles on account of tire trouble. Time, 7 minutes 13 1-5 seconds.

Big Prizes in Milwaukee Meet

The Milwaukee Automobile Dealers' Association has hung up purses aggregating \$2,500 for the national grand circuit meeting at State Fair Park track in Milwaukee on Friday and Saturday, June 16 and 17. The American Automobile Association has sanctioned the meet. There will be eighteen events, from five to fifty miles, on the two days, this number being divided equally. The feature events will be a fifty-mile Class E non-stock race on Friday and a Class E special in two divisions, at fifty miles, on Saturday. The Saturday event will be divided into non-stock chassis from 161 to 300 cu. in. and 301 to 600 cu. in. The first prize in the Friday event is \$200, second, \$100 and third, \$50, while two sets of prizes ranging from \$100 to \$25 are offered for the big race on Saturday.

Bob Burman, world's speed king, and Ray Harroun, the 500-mile speedway winner, have been signed to appear and Burman will try for new track records, some of which were established on the State Fair track last September by Oldfield. The M. A. D. A. has obtained the Governor's consent to place 100 National Guardsmen to police the course. The track is in excellent condition.

National Good Roads Convention for Richmond

The first annual national good roads convention, under the auspices of the American Association for Highway Improvement, will be held in Richmond, Va., on September 12-15.

The association under whose management the convention will be held was organized in Washington last November for the purpose of stimulating public interest in the good roads movement along practical lines and its members include practically every man of importance working for better roads in the country.

President Taft has been invited to attend the coming conference and his deep interest in the aims of the association may be seen from the following letter recently sent by him to Logan Waller Page, director of the United States Office of Public Roads in the Department of Agriculture, and president of the American Association for Highway Improvement:

I am interested in the work of the American Association for Highway Improvement, and I am in full accord with its aims and purposes. I consider the lines on which the association is working to be thoroughly served, and with such men as you have associated with you much should be done to better the condition of public roads.

This coming convention will mark the greatest assemblage in the interest of road improvement ever held in the United States. Farmers, business men, highway officials, railroad men, engineers, automobile users, manufacturers and road machinery and material makers have signified their intention to take part in the Congress. Under the auspices of the Touring Club of America a number of automobile tours are being arranged with Richmond as the objective point during the week of the convention and trips will be made to the Virginia capital from New York, Boston, Chicago, Atlanta, New Orleans, St. Louis and many other places.

One of the most important features of the convention will be that it will mark what is regarded as the culminating effort on the part of farmers, railroad men and motorists working in harmony with the U. S. Government to give this country an adequate system of improved highways. The influence of the association has already been felt in this re-

spect through its affiliated organizations which include the Ohio Good Roads Federation, the Capital Highway Association, embracing the Atlantic seaboard; the International League for Highway Improvement, the Arkansas Good Roads and Drainage Association, the New Santa Fe Trail Association, Gulf Coast Good Roads Association, Good Roads Club of Georgia, Montana Society of Engineers, the Southern Appalachian Good Roads Association, the South Carolina Good Roads Association, the Oregon Association for Highway Improvement, Indiana Good Roads Association, and the Aroostook County Good Roads Association of Maine. The American Association for Highway Improvement was formed to act as a clearing house for all existing organizations working for road improvement and maintenance.

Among the organizers and those who are now preparing the programme for the forthcoming congress, besides President Page, are: W. C. Brown, president of the New York Central Lines; Lee McClung, treasurer of the United States; Louis W. Hill, president of the Great Northern Railroad Co.; W. W. Finley, president of the Southern Railway; J. E. Pennybacker, Jr., secretary of the Association; B. F. Yoakum, chairman of the Frisco Lines; Dr. E. J. James, president University of Illinois; James McCrea, president Pennsylvania Railroad Co.; Bryan Lathrop, Lincoln Park Commission, Chicago, Illinois; Leonard Tufts, president Capital Highway Association; James S. Harlan, Interstate Commerce Commissioner; Lafayette Young, former U. S. Senator from Iowa.

Shingle Hill Climb To-day

Everything is in readiness for the annual Shingle Hill climb, which is to be held to-day—June 10—under the auspices of the Yale and New Haven Automobile Clubs. The incline, which is in West Haven, has been put into the pink of condition for the climb, according to the reports of the promoters. The contests are scheduled to start at 1 o'clock in the afternoon and among the entrants are David L. Bruce-Brown, Caleb Bragg, Jack Rutherford, Fred Belcher and a number of others.

New York Orphans Frolic in Rain

Close to 5,000 New York orphan children defied the strenuous efforts of Jupiter Pluvius to spoil their seventh annual outing as guests of the New York Orphans' Day Automobile Association on June 7 and made the trip to Luna Park, Coney Island, where despite the torrential downpour of rain they enjoyed practically all the attractions that place had to offer. While the sky was overcast in the morning when the parade of automobiles left New York, it was not expected that rain would in-

8 Fifth Avenue busses, 12 sight-seeing cars, 120 taxicabs and 45 automobile trucks. These vehicles were fitted up to accommodate from 5 to 150 children each.

Long before 10 o'clock, the time scheduled for the official start of the parade, the cars that had been loaned for the day were assembling at the various institutions to which they were assigned and preparations made to take the children on their outing. The day of the automobile outing is one that the children



THE CHILDREN WERE NOT THE ONLY ONES TO ENJOY THE RIDE

terfere with the affair. Before the procession of cars and trucks of all types had reached Coney Island the rain began to fall heavily and the children occupying the open vehicles were drenched to the skin in short order.

The affair last Wednesday was the seventh event of its kind to be held in New York and was arranged by an association, composed of men interested in the automobile trade in New York, which was organized about a year ago. Efforts were made to have this year's outing the best ever and was it not for the rain such would have been the case. There were no less than 310 cars furnished by philanthropic owners for the occasion—125 touring cars,

look forward to each year and the arrival of the cars was the sign for the outbursts of a great demonstration. It did not take long for the children to pile into the automobiles and prepare themselves to be entertained. Most of the cars were decorated and each of the children was supplied with a flag and they presented a gay sight as they were taken to the assembling points at Broadway around Seventy-eighth Street and at Union Square.

At these points a perfect bedlam of noise broke loose with the arrival of the children and the kids held possession until the signal was given to start. Acquaintances formed on last year's outing were renewed and the pros-

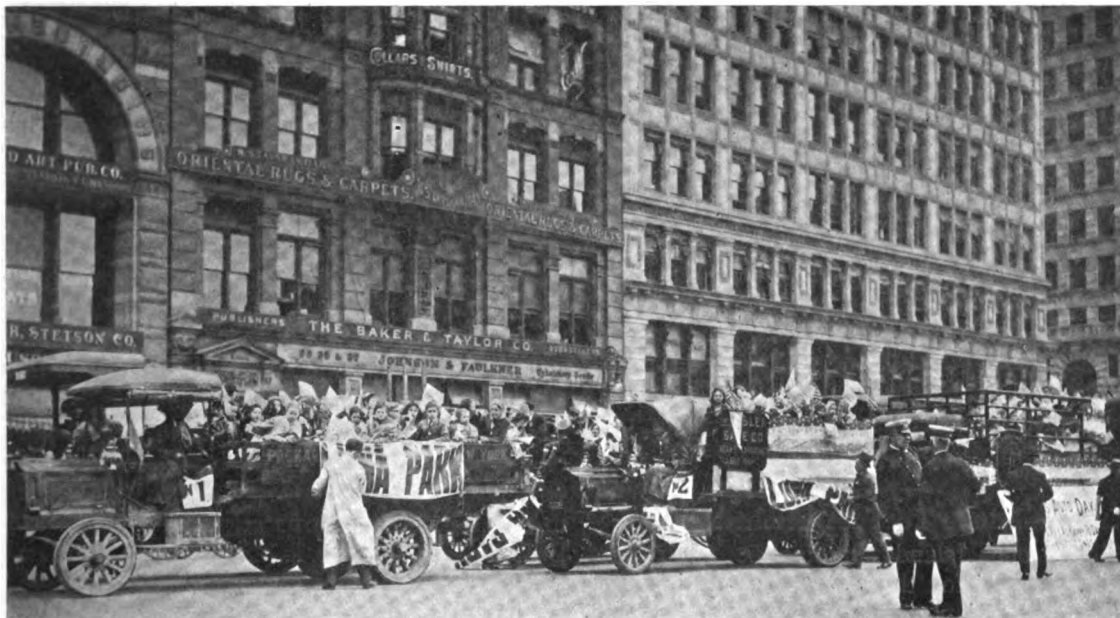


IT TOOK A LOT OF RAIN TO PUT A DAMPER ON THESE SMILES

pects of what was to be done when the Island was reached was discussed thoroughly. The fact that the rain later put a crimp in these plans did not faze the children any.

Promptly at 10 o'clock the signal was given to start and with a joyous shout from the children the procession moved in the direction of Luna Park. At the head of the first division, in charge of W. J. Morgan, originator of orphans' outings, was the Hebrew Shelter-

ing Arms band and at the front of the second section was the German Odd Fellows' Orphan band, while in the rear was the Leake and Watts Orphanage band. The airs played by these bands were taken up by the children in song and all the way to Coney Island the air was filled with their shouting. There was also a Gabriel horn wagon and a wagon in which was Captain Sorcho, of deep sea diving fame, and his famous calliope.



JUST BEFORE THE START OF THE PARADE

The first division arrived at Luna Park shortly before noon, special police arrangements providing for a clear road for the cars containing the children. Immediately upon their arrival the children were led to the big ball room of the amusement park, where they were treated to a hearty dinner donated by Benjamin Briscoe, of the United States Motor Co. The first batch of kiddies set themselves to the task of "cleaning up" with great vigor and had about completed their portion of the job when the second division of the parade arrived and took possession of the dining room. The dining end of the outing was then repeated.

Fred Thompson, who had offered Luna Park to the orphans when Dreamland was burned down, greeted the children at the gates and reminded them that everything in the big amusement park was at their service and no charges were to be made. The kids immediately took advantage of this offer and made it their business to visit everything possible. Their fun was suddenly curtailed by the down-pour of rain which made it necessary for them to stay in the ball room where games and dances were held. About 4:30 in the afternoon the party started back to New York and the various places that the children had to call home. The kids were wet and tired, but they were happy with the fun of the day and the thoughts that probably next year they will have another chance to visit the enchanting island.

Colonel K. C. Pardee, president of the association having the outing in charge, acted as grand marshall and was almost as happy as the youngsters throughout the day. Of the children on the outing the Children's Aid Society sent 2,236, the Hebrew Sheltering Guardian Society sent 93, 110 came from the Charity Organization Society, 65 from two diet kitchens, 66 from the Five Points Mission, 83 from Leake & Watt's home, 16 from the Home for Mentally Defective Children, 150 from the Presentation Day Nursery and 95 from the German Odd Fellows' Home.

Automobilists To Test Exclusion Law

The Long Island Automobile Club has started a case for the purpose of testing the validity of a law passed a year ago by the New York Legislature restricting that portion of the Ocean Parkway in Brooklyn, N. Y.,

known as the "speedway" and lying between Kings Highway and Twenty-second Avenue, on the road to Coney Island from Brooklyn to the use of horses and light carriages. Motorists who have occasion to use the Ocean Parkway have complained bitterly since they have been required to drive their machines on a narrow side path, where the congested traffic made it dangerous to run a car, while the center of the roadway, which by the act of the Legislature was confined to the exclusive use of horse and light carriages, has been practically deserted.

Arrangements were made by the club officials to have a test case of the matter and it was decided to have C. Stewart Cavanagh pilot his machine over the restricted road after the police had been notified that the law was to be broken. Accompanied by William Schimpf, Herman G. Andrews and Colonel William W. Wingate, members of the club, Mr. Stewart, driving his own automobile, started from the L. I. A. C. on June 6 and went to the Parkville station, where Captain Shaw was told that the law was going to be violated for the purpose of testing it.

Captain Shaw notified the policeman on duty on the post at the Speedway, and when the club members arrived he watched Mr. Cavanagh drive his automobile a block through the restricted Speedway. The policeman then formally served Mr. Cavanagh with a subpoena to appear in the Flatbush Police Court to answer for the violation.

Mr. Cavanagh and his fellow members appeared in the police court at two o'clock in the afternoon, and on the testimony of Policeman Garrett Terrell Magistrate Voorhies held Mr. Cavanagh for further examination. Counsel for Mr. Cavanagh and the club immediately went before a Supreme Court Justice and obtained a writ of habeas corpus, which will be heard on June 14.

The act in question became a law on June 25, 1910, after it had been signed by Mayor Gaynor. It is entitled "An act to amend the city charter" and is to be found in chapter 681, laws of 1910. By its authority is given to the Commissioner of Parks of the boroughs Brooklyn and Queens, in his discretion, to issue rules and regulations restricting the use and occupation of the Speedway to horses and light carriages and to exclude therefrom vehicles of all other kinds.

Four Reach Rome in Air Race

The two leaders in the great Paris to Rome to Turin aeroplane flight—Beaumont and Garros—that has been stirring all Europe during the last fortnight at this writing (Wednesday) are resting at Rome preparatory to starting on the last stage of the international race. In Rome also are two other aviators who have completed the flight up to that point. They are Herr Frey, the German representative, and Mons. Vidart. In last week's issue an account was given of the race up to May 30 when Garros was leading, having reached Pisa. Beaumont was in difficulty then at Alassis, midway between Nice and Genoa.

At 3:55 A. M. on May 31 Beaumont took to wing at Alassio and arrived at Genoa at 6:50 A. M. He ate breakfast there and restarted and passed over an Italian warship on the Gulf of Genoa. He descended at Pisa at 10:30 A. M. and started for Rome at 1 o'clock in the afternoon. Frey was close behind Beaumont in the race and left Genoa at 5:04 A. M. At Pisa he landed at the race course instead of the aerodrome and was injured when his machine struck a jump. Vidart left Avignon at 6 A. M. and arrived in Nice at 10:15 o'clock.

Garros, the then leader, started from Rome at 4:30 in the morning, but had only gone about 39 miles when he fell. He was seriously hurt and the machine he rode was badly damaged, but he pluckily set about making repairs.

Beaumont, whose right name is Lieut. Conneau, made his flight from Nice to Rome, 360 miles, in about eight hours flying and won the second stage prize of 50,000 francs or \$10,000. Conneau is 31 years old and a grandson of the private physician of Napoleon III. He got his air pilot's license last December and took part in the race from Paris to Madrid. He fell three times, completely smashing his apparatus.

Garros secured a new machine at 10:30 A. M. on June 1 and despite his injuries he climbed into the pilot's seat and swept away along the Mediterranean coast toward Rome.

The Italian torpedo boat Fulmine followed in the wake of the airman for a distance of ten miles, when the warship was outdistanced. Garros passed over Grosseto, about eighty

miles south of Pisa, at 11:50 A. M. After passing over Grosseto, Garros landed at Castiglione della Pescaia, which is about half way between Pisa and Rome. He quickly took on a supply of fuel, and sped away again toward the Italian goal.

When the sight of Rome the bird-man suddenly disappeared. It was at first feared that he had met with an accident, but he landed safely ten miles from the aerodrome, and after overhauling his motor again reappeared in the air and planed gracefully to the aviation ground in Rome. Great crowds had gathered to witness his coming, but Garros almost collapsed when he landed at 5:10 o'clock in the afternoon. He said that he felt very ill and could scarcely walk. It was necessary to help him to the committee room. Beaumont enthusiastically greeted his rival in Rome.

On this day Vidart passed Frey, who was still stalled at Pisa, having made the flights from Nice to Genoa in three hours. He flew direct to Pisa and then had to make a landing at Cecina, about 35 miles out of Pisa, owing to motor trouble. In making the landing he broke one of the planes of his machine. Kimmerling was stalled at Brignoles and Bathiat at Lyons.

Frey arrived in Rome on June 3 at 5:40 P. M. after more than 12 hours of flying from Pisa. He flew through a thick fog and landed for gasoline at Maccarese, six miles from the outskirts of Rome and twelve miles from the Parioli aerodrome, where the contestants had to land. Vidart started from Follocinu, where he had landed the day previous, at 3 P. M. and came down at Orbetello at 7:47 P. M., when his motor failed to work properly. He broke a wing on his machine when landing.

On June 5 Vidart reached Rome at 9:15 A. M. He obtained a new aeroplane and started from Orbetello at 8 o'clock and made the flight to Rome in an hour and a quarter. Under the rules the contestants are not permitted to start on the Rome-Turin leg of the race until June 10 and it has to be completed before June 15 at 9 P. M.

The four aviators now in Rome—Mons. Beaumont, Mons. Garros, Herr Frey and Mons. Vidart—have already won shares in \$40,000 of prizes, \$20,000 for the first five to reach Nice and \$20,000 for the first five to

reach Rome. There remains \$60,000 in prizes yet to be won by finishing at Turin, of which \$20,000 will be divided among the first five to land there.

Mons. Pierre Veldrine, the winner of the Paris-Madrid flight, started in the Paris-Rome-Turin flight on June 6 with the intention of flying to Rome on the first day. He left Buc, near Paris, at 3:31 A. M. and reached Dijon, 160 miles distant, at 7:25 A. M. He replenished his supply of fuel and restarted at 8:45. After passing over Chalon-sur-Seone and flying at an altitude of 3,000 feet he encountered a violent wind which compelled him to land at Saint Laurent-les-Macon, just outside of Macon. He damaged his machine in landing and withdrew from the race.

The Paris-Rome-Turin race was organized by the Paris Petit Journal, which offered a \$20,000 prize for the first five pilots to arrive at Nice from Paris. Another \$20,000 was put up by the Rome Exhibition management for the first five who reached Rome from Paris. The Turin Exposition backers added another for the first five pilots who arrive Turin from Paris. The total of the prizes was raised to \$100,000 by the additional \$40,000 being offered by the managers of the aviation meets at Rome and Turin, which are being held during the race.

Each of the \$20,000 prizes was offered under the following conditions. First pilot to receive \$10,000; second, \$4,000; third, fourth and fifth each \$2,000. Any prize not won to go to the pilot who is first in each stage. The starters were divided into two classes, those who entered for the whole course and those for the two stages, Nice-Rome and Rome-Turin or one of these two. The limit for the race is June 4 for the Nice stage and June 9 for Rome. In case five competitors do not complete each stage there is a readjustment of the prizes provided for.

There were originally seventeen entries for the race representing two Voisin biplanes, two Bristol biplanes and two Sommer monoplanes, one each of Nieuport, Dependussin, Tellier and Bischoff monoplanes, three each of Bleriot and Morane monoplanes and one Savary biplane. Of these thirteen competitors actually started five machines broke down completely and four competitors became discouraged and abandoned the race.

Aviator Lost in Across-Sea Flight

Another aviator has been lost at sea in the same manner as Cecil Grace, the Anglo-American, who last December started in a cross-channel flight from England to the Continent and was never heard from after he left the British shore. Lieut. Bague, a French aviator, who holds the world's cross water record, left

Nice, France, on June 5, for an over-sea trip of 150 miles, to Corsica, and at this writing, June 7, remains unheard from.

The search for Lieut. Bague is being continued in the hope that he may have landed in some inaccessible place and is waiting for help. This is what happened to him last March in his flight over the Mediterranean from Antibes to the Island of Gorgona.

Three months ago Lieut. Bague accomplished a sensational and daring feat by flying over the Mediterranean from Antibes, France, to the little island of Gorgona, off the Italian coast. He covered a distance of about 125 miles, establishing a record for over-sea flight that still stands today. This he did without the assistance of tugs, torpedo boats or any other craft to guide him or add to his confidence by their presence.

Pennsylvania Wins Balloon Race

The first intercollegiate balloon race in the history of aeronautics was won by the University of Pennsylvania balloon, Philadelphia II, on June 30. Three colleges were represented in the contest—Pennsylvania, Williams and Dartmouth. The start was made from North Adams, Mass., on Saturday afternoon, June 30. The Williams balloon, piloted by H. P. Sherman, president of the Williams College Aeronautical Society, who had as his aid Kenneth P. Price, started first at 2:57, and was followed eight minutes later by the Philadelphia II, which was piloted by Arthur T. Atherton, of Philadelphia, who had as his aid Geo. Atwell Richardson, acting head of the Pennsylvania Aeronautical Society. The Dartmouth representative followed fourteen minutes later, this balloon carrying J. B. Benton as pilot and J. W. Pearson as aid.

The Dartmouth was the first to land, coming down at 6:30 P. M. in West Pelham, Mass., forty-one miles from North Adams, after three hours and fifteen minutes in the air. An hour and a quarter afterward the Williams balloon, Stevens No. 27, landed at Paxton, sixty-six miles in an air line from North Adams.

The Philadelphia II. landed at West Peabody at 10:30 P. M., after being buffeted around by a treacherous wind. It had covered 115 miles during the seven hours it was in the air. The greatest height reached by the Philadelphia II. was 12,000 feet over Fitchburg.

Wisconsin Legislature Passes Donald Bill

The Wisconsin good roads bill, carrying an annual appropriation of \$350,000 for highway construction, improvement and maintenance, has passed both houses of the legislature, and it only needs the signature of the Governor to become a law. The bill was fathered by Senator J. S. Donald, of Mount Horeb, Wis.

The law creates a State highway commission of five members, one of whom shall be dean of the college of engineering of the University of Wisconsin; the second, the State geologist, and the other three appointees by the governor. They will receive no salary, but reimbursement for expenses. The commission will supervise the distribution of the \$350,000 fund provided annually under the law and have exclusive supervision of the highway work in the State.

It will employ engineers, advise counties regarding the construction of roads and bridges, make rules for carrying out surveys and plans, conduct experimental work, apportion the fund and compel counties to lay out their roads in a co-ordinate plan. This is regarded as one of the best features of the law, as it will eventually result in a complete system of State highways in Wisconsin.

The county is the unit in the distribution of the fund and the law requires that the State shall not bear more than one-third of the cost of good roads work. The county and its townships must each contribute a third. If the whole \$350,000 is expended each year, it will mean a total expenditure of \$1,050,000 for highway improvement annually, for the counties will contribute one \$350,000 and the townships another \$350,000. The county boards of supervisors are empowered to levy taxes for this purpose.

All county work shall be done under the direction of a county commissioner, whose salary shall be \$1,000 a year. All road plans must originate in the county boards and then be approved by the State commission. Before the State pays its share of the cost, however, the work done by the county must pass inspection by the commission.

Several States Revise Automobile Laws

Motorists from several Northern and Southern States will have free touring privileges in Maryland for a period of seven days as the result of a special proclamation recently is-

sued by Governor Crothers of Maryland. Automobilists who are residents of the States of New York, Pennsylvania, Delaware, Virginia and West Virginia, may tour in Maryland for a seven day period without obtaining any separate State license or tag from the Commissioner of Motor Vehicles of Maryland. This privilege is only extended to motorists who have complied with the laws of the State in which they live.



THE CORONATION YEAR MASCOT.

The District of Columbia has also amended its automobile regulations so as to provide for reciprocal motor privileges with the various States of the Union and foreign countries. According to the recent law visiting motorists in the District of Columbia may now receive the same touring privileges there as their respective State or country grants to other visiting automobilists.

Beautiful Floral Parade in Chicago

What was considered one of the most spectacular events of its kind ever held in Chicago was the automobile floral parade of the Chicago Automobile Trade Association on Saturday, June 3. More than 100 cars decorated abundantly with flowers of all kinds paraded through the streets and were heartily applauded by the large number of spectators that lined the route.

Prizes were awarded to those who presented their cars in the most ornate fashion. There were three classes; dealers, private owners and commercial vehicles. The first prize winning car was a White, which represented an aeroplane. Above the body of the car an aeroplane of white blossoms, with white wings spreading almost full size, seemed to carry the vehicle in flight. A little girl in white sat in what was supposed to be the aviator's seat and appeared to be guiding the big machine. A Rambler won the second prize. This car was a virtual fairy house of vines and blossoms. The car was full of little girls, who thrust their heads out from the foliage, as the car moved along the way. Another car of this make that won a prize was gotten up to represent a masted ship. There were four masts and in the "crow's" nest of each a little maid was stationed.

H. G. Koeing and C. E. Anderson won first and second prizes, respectively, as private car owners whose cars made the best appearance in the parade. Among the other winners were the Elmore, Studebaker and Mars cars. Participants in the parade held a gymkhana at Grant Park later in the day and a number of mirth provoking events were held.

Government Warns Motorboat Owners

The government officials have again started a crusade against the owners of motorboats who have failed to equip their craft according to law, and on the night of June 5 all sorts of pleasure craft plying the Hudson River between Hudson and Troy were held up by inspectors sent out in launches by Luther C. Warner, surveyor of the Port of Albany, to see if the rules pertaining to the equipment of vessels on the navigable waters of the United States were being observed.

Violations of the law were found to be so frequent as to be the rule rather than the exception. Regulations requiring the use of

lights, life preservers and fire extinguishers were found to have been ignored by those in charge of several of the pleasure boats and in some cases an excessive number of passengers were being carried. Most of the offenders pleaded ignorance of the law and all were cited to appear before Surveyor Warner later, when they were warned not to repeat the offense. The Surveyor hopes to lessen the number of accidents on the river, due chiefly to absence of lights on boats at night.

The owners of motor boats were fined \$25 and those who were in row boats without lights were let off with dollar fines.

Three British Motorboat Challengers

Commodore H. H. Melville, of the Motorboat Club of America, announced recently that England will send three challengers to participate in the race for the possession of the Harmsworth trophy in Huntington Harbor, L. I., on August 24, 25 and 26. The trophy was successfully defended by the Dixie III. at Larchmont, N. Y., last year. Mr. Melville will leave shortly for England to complete arrangements for the race with the English motorboat men. While no official announcement has been made it is probable that the Duke of Westminster will again send over one of the challengers. The Maple Leaf II., owned by E. Mackay Edgar, which established a world's record several weeks ago, in all probability will be one of the entries. The elimination races to select American defenders will be held on Huntington Harbor on August 16, 17 and 18.

Breaks World's Motorboat Record

The world's speed record for motorboats under 20 foot was broken on Decoration Day by George E. Smith, who drove his "Proto" in the races of the Illinois Valley Yacht Club at Peoria, Ill. In the free-for-all race and against a large field of competitors he drove his craft at the rate of 28.12 miles an hour. The world's record has stood at 27.19 miles an hour.

Harrisburg Orphans Have Outing

The first annual Orphans' Day outing under the auspices of the Motor Club of Harrisburg, Pa., was held June 1 at Hershey Park, several miles out of Harrisburg, and more than 250 children were entertained. About 70 automobiles were donated for the occasion.

Senate Votes to Abolish Highway Commission

The New York Senate was the scene of one of the bitterest debates in a long time on June 6, when the Murtaugh bill providing for the abolition of the present State Highway Commission and its replacement with a new commission comprising State Superintendent of Public Works Charles E. Treman, of Ithaca, a personal friend of Governor Dix; State Engineer John A. Bensel, a personal friend of Charles F. Murphy, and State Superintendent of Highways who is to be appointed by Governor Dix was voted upon and passed by a little more than a bare majority. The vote stood 27 to 19. Twenty-six votes are required to pass a bill in the Senate.

The Murtaugh bill, which has the backing of Governor Dix and the Tammany Democrats, has been strenuously opposed since its introduction into the Legislature. The up-State taxpayers, particularly the farming element, objected very much to the abolition of the present highway commission, claiming that since its incorporation in 1908 it has done what was expected of it—and more; while the Murtaugh bill is a measure which, ostensibly framed to bring about economy and efficiency in the good roads work, will, it is claimed, vastly benefit the many contractors who affiliate with Tammany Hall for purely practical reasons.

The Tammany Senators were not conspicuous in the fight for the passage of the bill, the work of defending it being left to the up-State Senators. When it came to voting the only negative on the Democratic side was cast by Senator Roosevelt, leader of the insurgents in the United States Senatorial contest. Senator Roosevelt was strongly opposed to the passage of the bill and proposed three amendments to it, which he said would eliminate "jokers," but they were all turned down. Senator Grady, who had announced his hostility to the measure, was absent. The other absentees were Senator Sanner, Democrat, and Senators Griffith, Sage and Thomas, Republicans. Senator Duhamel, of the Independence League, voted affirmatively.

The debate following the introduction of the bill lasted about eight hours and was one of the bitterest seen in the Senate at the present session. Senator Murtaugh created a sensation at the start of the debate when he in-

timated that a fund of \$6,000 had been raised by the contractors to arouse sentiment against the abolition of the present commission, but he declared a moment after making this statement that he had heard rumors only. In presenting his bill Senator Murtaugh said in its defense:

The people of this State and the members of this Legislature are aware of a campaign which has been most effectively and energetically conducted since January 1 to retain the present Highway Commission. The attempts of the Democratic administration to assume control of the different State activities and to replace in the different commissions well-intrenched officeholders have naturally been more or less subjected to attack, but it is most surprising how bitterly this measure to remove the Highway Commission has been attacked in the up-State Republican newspapers. Numerous misleading and vicious attacks inspired from the same source here in Albany and couched in the same identical language, have found publicity in the different periodicals of the State. It costs money, and a large amount of money, to carry on such an extensive campaign, and it has been a matter of interest to a number of people where the money came from to carry on this campaign. The secret has at last leaked out, and it is common talk on the streets of Albany and a matter of common gossip in the hotel lobbies that at least \$6,000 was collected from the successful bidders on the highway contracts, which were let on April 12, and the money was used to deceive the public and manufacture a sentiment to keep the present Highway Commission in power.

No charge is made that any member of the present Highway Commission knew or was in any way responsible for the raising of this fund. But it might be well to call the attention of the Senate to two significant facts. If this commission is so efficient, so economical and so indispensable to the improvement of the highways, why was it necessary for the successful contractors on April 12, who in the future will be subject to the control and pressure of this commission, to raise \$6,000 for the purpose of interfering with the Governor's plans and create a favorable feeling toward this commission among the members of the Legislature?

Could it be that the contractors have found this commission most bendable and willing to lend a favorable ear to the demands of the contractors at the sacrifice of the peoples' money? When we consider the favors that have been granted to contractors, material men and others, it is easy to understand the source of support this commission receives when its acts are called into question.

The lone Democratic Senator who opposed the bill, Roosevelt, was very emphatic in de-

nouncing it and in the course of a debate he said:

My constituents will not permit me to take any share in the blame for the passage of this bill. Even if they would, I would not let them. You will never catch me voting for such a patchwork, crazy quilt scheme as this. Let those who have stirred this nasty pudding bear the consequence. It is not difficult to see that even the introducer of this foolish bill is not proud of it when he claims parentage. I do not blame him, and I will add that he is a courageous man to admit it at all, considering the suspicious comments surrounding its birth.

Two other Democratic Senators who had announced their dislike for the measure, but were won over by their colleagues and voted in favor of its passage. They were Senators Burd and Loomis, of Buffalo, and it was these two votes that helped considerable to pass the bill.

Senator Brackett, leader of the Republican minority, denounced the measure as "a vulgar attempt to grab the patronage of the department to get the 50,000 votes that the commission in its present state was worth to the Republican party." Senator Brackett charged the Democrats with breaking an agreement made by the leaders of both sides when the present highway law was framed in 1908. Senator Sullivan asked for an explanation of this agreement and Senator Brackett said that the agreement was reached by the leaders of the majority and minority as the result of which the appointment of the minority member was permitted and the appointment of all the commissioners was deferred until after the State election to see who would have the appointing power. Later Senator Brackett referred to the Democrats who were supporting the Governor's bill as "snakes," and, responding in kind, Senator Frawley alluded to the Republicans as "hyenas."

"Under the brute force of a caucus," Senator Brackett continued, "the Democrats are determined to push this bill through. The black perfidy of it is that they are disregarding all agreements and ignoring promises. The Highways Department should not be brought under the influence of temporizing politics. There should be minority representation on the commission to see that scandalous practices and politics are not brought in. This bill is a grab for patronage."

Governor Dix was very pleased when he heard of the passage by the Senate of the Mur-

taugh bill and said he felt satisfied that the measure will be speedily passed by the Assembly. Abolishing the three commissioners and substituting the State Engineer and State Superintendent of Public Works and a new Superintendent of Highways to be named by the Governor will, Governor Dix believes, result in not only a better administration of the department but a big saving to the State, as only the Superintendent of Highways will receive a salary on the commission and no increase will be given the other State officers.

Discussing the highway bill Governor Dix pointed out the unusual situation in Franklin County, which this year has had a law enacted to permit a \$500,000 bond issue for improving highways without State aid. The Governor said the county authorities claim they can construct their own roads at a cost of \$6,000 per mile, while the State is paying about \$12,500 per mile for its improved roads. Gov. Dix said Chairman Parker of the Massachusetts Highway Commission had declined to be considered for appointment as State Superintendent of Highways.

The men who will have to quit office are S. Percy Hooker, of Leroy, N. Y., the chairman of the present commission; Thomas Wallen, of New York, both Republicans, and Robert Earl, of Herkimer, a Democrat.

Only One American in Aeroplane Race

The Aero Club of America has not found all clear sailing in securing American representatives for the Coupe Internationale d'Aviation to be held in England on July 1, and up to this date it has received assurances from but one aviator to the effect that he would represent this country in the speed contest for the trophy. This is Charles Terres Weymann, who has been flying abroad. He will drive a special racing Nieuport monoplane.

Members of the club's committee in charge of the arrangements for representation in the race are not at all worried over having but one representative, but rather look upon it as presaging victory. In support of this view they point out that Lieutenant Lahm was the only American in the first race for the International balloon cup and won, Mr. Mix the only American in the 1909 balloon race and won, and Mr. Curtiss the only American in the first international aeroplane race and he won.

Hawaii an Ideal Touring Country

That Hawaii is an ideal touring country is attested by R. C. Kennedy, of the Wagner-Kennedy Co., San Francisco agents for Nordyke & Marmon Co., who has recently returned from touring the Islands in a Marmon car.

He reports many of the Hawaiian roads as the best in the world, being paved for miles with a composition of lava harder than granite, and affording a perfect surface for the automobile. The tropical scenery is most beautiful and he is enthusiastic over the trip.

While in the islands Mr. Kennedy drove his Marmon car to the edge of the nine-mile crater of Kilauea, the largest active volcano in the world, 6,000 feet above sea level. The route lay through miles of tropical forest, and the driver secured a wonderful collection of unique photographs, one of which is reproduced as this week's frontispiece.

There are now several Marmon cars in daily use in Hawaii, and the fine roads promise to develop many more automobile enthusiasts during the coming season.

A Queer Test Request

Many queer requests come to automobile dealers from time to time on the part of prospective purchasers, to make tests that will

show the relative merits or demerits of a car. Some want hills climbed, which they know are unusually steep or rough. Others ask that the demonstrator travel rough or sandy roads. These are some of the common ones.

Probably one of the most unique requests ever offered came to Evers & McGhie Motor Co., Ltd., of Brisbane, Australia, representing Overland cars in the antipodes. The prospective purchaser was very much pleased with the apparent showing that the demonstrator made to him. When it came to the crucial moment of "sale or no sale," he said: "If that car can be run into the river Bungle, that runs near my home, up to the point where the water will cover the running boards and the engine keep on going, I will buy the car."

The salesman was astounded, but willing to make a trial. With a cloth tied about the carburetor the test was made, as shown in the accompanying illustration, and to both the satisfaction of purchaser and salesman, the motor hesitated never for a moment. And as a result, one more Australian drives an Overland.

During the month of May there were 2,435 automobiles registered in Indiana, a gain of 596 over the corresponding month for 1910. There were 4,035 registrations during the months of April and May.



TESTING A CAR IN THE RIVER BUNGLE

Hooper Discusses Roads with Manufacturers

Robert P. Hooper, president of the American Automobile Association, stopped off at Detroit on his way back East from the Indianapolis race, and while in the Straits City had a conference with R. D. Chapin, president of the Hudson Motor Car Company, S. D. Waldon, vice-president of the Packard Motor Car Company, and C. J. Butler, president of the Morgan & Wright Company. The latter three gentlemen represent the automobile and parts manufacturers in all good roads movements and it was this subject that President Hooper discussed. Mr. Hooper told of the A. A. A.'s intention to take charge of an extensive good roads campaign during the coming year. President Hooper said:

In the past the American Automobile Association has been chary of coming out too strenuously in favor of good roads for fear that farmers generally might get the idea that our action was merely selfish. Before the farmer realized, as he does now, how valuable good roads are to him, he was a little likely to object to being taxed to improve them, and any action that made it seem that automobile owners were trying to get him to do so for their pleasure and not for his own good might easily have had an effect exactly opposite to what was desired.

Now, however, the situation has changed. The

farmer has learned that good roads mean money in his pocket. Moreover, the farmer is buying automobiles. In a very few years half the automobiles in the country will be owned by farmers; and, both as an agriculturist and a car owner, the farmer wants good roads. He no longer objects to the efforts of outside automobile owners to help him.

For this reason, the American Automobile Association has decided to come out emphatically for good roads in general and for State and national aid to road building in particular. Many States are doing splendid work in road building, but many others cannot afford to do so as extensively as they would like.

The farmers want good roads and they are willing to pay for them wherever they can possibly afford them. In some regions, however, they have to spend so much to get their crops to market over the horrible roads that they cannot compete with the districts that have better highways. National and State aid would open these regions.

Rather oddly, in most States where State aid is in force, the cities pay the largest portion of the taxes. Hence they pay for most of the roadways that are built, although the farmers get the greatest use and benefit from them.

Our plan contemplate the co-operation of our very large membership of automobile users in every State with other good roads enthusiasts and organizations, for the purpose of securing both State and National good roads legislation.

Interesting Program for S. A. E. Convention

Everything is in readiness for the summer meeting of the Society of Automobile Engineers, which is to be held at Dayton, O., June 15 to 17. In addition to the regular routine business to be transacted the attendants at the convention will have plenty of opportunity for recreation. Among other things arranged by the committee in charge of the affair are baseball games, band concerts and aeroplane flights at the Wright Brothers' aviation grounds. On the final day a banquet is to be held at the Automobile Country Club.

The convention will open at 8:30 A. M. Thursday, June 15, in the Sun Room of the Algonquin Hotel, Henry Souther, president of the Society, delivering the opening address. This will be followed by business and professional matters, and the afternoon will be devoted to social features. The mornings of June 16 and 17 will also be devoted to things of a business and technical nature, while the afternoons will be given up to pleasure.

Among the papers to be presented are:

"The Question of Long versus Short-Stroke Motors."—J. B. Entz.

"Long Addendum Gears."—E. W. Weaver.

"The Influence of the Engineer on the Sales Department."—Wm. P. Kennedy.

"Elements of Ball and Roller Bearing Design."—Arnold C. Koenig.

"Worm Gears and Wheels."—E. R. Whitney.

"Rotary Valve Gasolene Motors."—C. E. Mead.

"Some Points on the Design of Aluminum Castings."—H. W. Gillett.

"Oversize Standards for Pistons and Rings."—James N. Heald.

A great many interesting topics are to be taken under discussion during the session, among which are: Special methods of loading commercial vehicles; dumping trucks; auxiliary apparatus for commercial vehicles; trailers for commercial vehicles; location of working and emergency brakes; transmission location—whether on rear axle or attached to car frame; underslung frames; multiple-disc clutches.

BRIEFS FROM THE FIELD OF SPORT

Another race meet is scheduled to be held on the Guttenberg track in North Bergen, N. J., shortly, sanctioned having been granted for the affair by the American Automobile Association to Henry Shaffer, president of the Guttenberg Motordrome Association, the promoters. The races are to be held on Saturday afternoon, June 17, commencing at 2:30 o'clock and seven events are to be run. The Guttenberg track is well-known for its bad condition for automobile races and before issuing the sanction the Contest Board of the A. A. A. received a guarantee that the course would be scraped, rolled and oiled and otherwise put into a safe condition for racing. The program is as follows:

Event No. 1.—Three miles, non-stock, class C, open to any car under 161 cu. in. piston displacement.

Event No. 2.—Five miles, non-stock, class E, open to any car or chassis under 231 cu. in. piston displacement.

Event No. 3.—Five miles, non-stock, open to any car or chassis under 301 cu. in. piston displacement.

Event No. 4.—Ten miles, non-stock, open to any car or chassis under 451 cu. in. piston displacement.

Event No. 5.—Ten miles, non-stock, open to any car or chassis under 601 cu. in. piston displacement.

Event No. 6.—Five miles, non-stock, open to any car privately owned, owner to drive.

Event No. 7.—Ten miles, non-stock, class D, free-for-all.

Ernie Moross' barnstorming troupe of racing drivers is gradually being increased so that it now contains some of the most prominent and successful pilots in the country. Already Burman, "Billy" Knipper and Joe Matson are members of Moross' forces and it is said that "Teddy" Tetzlaff will shortly join with his Lozier car. He will make his first appearance with the Burman-Knipper-Matson trio at the Milwaukee meet on June 13 and 14. On that occasion Burman will handle the big Benz and the Knox; Knipper the National and a smaller Benz, and Matson the Mercedes.

There is some talk of constructing a mile board track on the same plans as the Los Angeles saucer in the vicinity of Chicago. Thomas Carey, owner of the Hawthorne dirt

track near the Windy City, announced last week that if the meet to be held on his track on June 10 and 11 is successful he will likely convert the course into a board motordrome and appoint Homer George as manager of contests. Mr. George said that the first event would be the most startling ever run in the world. It will consist of world's record trials by the fastest cars in existence the afternoon of the opening, with a sensational twenty-four hour race beginning at night. For this race a purse of \$25,000 will be offered, with a limit of twenty to twenty-four cars as starters. Such a race, he said, would attract 100,000 spectators.

"Senator" W. J. Morgan, the American representative of the Automobile Club de la Sarthe, the promoters of the Grand Prix race, learned this week that the event had been postponed until July 23. The expected American entries have not materialized as yet, the only cars representing American manufacturers that have been nominated up date being a Ford and a Marquette-Buick. The Ford car is already at the scene of the race, while there is some doubt cast as to whether the Marquette-Buick will be a contestant.

According to Chairman Frank G. Webb, of the Contest and Tours Committee of the Long Island Automobile Club, there will be a contest this season for the Schimpf trophy, open to amateurs in the club, over Long Island roads. The details of the run, including the date, have not been completed, but Mr. Webb declared that it would be a day and a half run, starting some Saturday afternoon and ending on Sunday evening.

At a meeting held in Indianapolis a few nights ago, the management of the Indianapolis Motor Speedway decided to stage only one race meet a year hereafter, and to have this on July 4. This date has been selected because old soldiers objected to having the 500-mile race on Memorial Day. Plans are being made to build subways under the track for the convenience of automobiles and pedestrians.

What the 500 Miles Race Showed

"The greatest race of motor car history is a thing of the past, but memory and effects of the race will remain indefinitely. Morbid curiosity was not, in any way, a factor that caused a hundred thousand people to brave the discomforts of travel and other inconveniences of getting to and from a vast concourse of human beings. This great motor car contest and the enormous throng of people who witnessed it have a much deeper significance, and it is an insult to the intelligence of the public to intimate that any possible brutalizing influences were a material attraction. On the contrary, one of the greatest exhibitions of helpful sport of all times was disclosed. An opportunity was afforded of seeing a physical comparison of the progress made in motor car development with the progress shown only a few months ago," says C. C. Hauch, treasurer of the Nordyke & Marmon Co.

"The interest in the development of the motor car is both natural and rational. Only a few years ago, heralded as the exclusive toy of the rich, the motor car of to-day is recognized as one of the greatest inventions of the age, ranging in importance alongside of such inventions as the telephone, telegraph, printing press, reaping machine, steamboat, locomotive, etc. Every invention, which has had for its purpose the annihilation of distance and time in the transportation of messages, persons and property, has been of the greatest benefit to the public. The motor car is directly within this category. In addition to its thoroughly established and recognized commercial advantages, it is believed by students of the question that the motor car will do more than any other known influence to break down the barriers between urban and rural life. No greater benefit could be conferred on this nation than that of making rural life so attractive and convenient as to discourage the tendency to congestion of population in cities. In view of this, the rapid development of the motor car is of national economic importance. There was a time when the general interest in motor car racing events was from the standpoint of sport alone. At that time the performance of a specially built racing car did not appear to be of any particular advantage to the prospective buyer of an automobile. The stock chassis race revolutionized public sentiment relative

to such contests and was of incalculable value to motor car manufacturers and of great benefit to the buying public.

"In racing events the cars are subjected to their limit of endurance. This is particularly true with reference to long races. The vibrations and stresses are so great that the slightest weaknesses in material, design or workmanship are brought out. All of this information and experience rebounds to the advantage of both the manufacturer and the buyer of a car. Thousands of miles of ordinary driving may fail to develop a weak point which would be clearly shown by a few hundred miles of racing speed. Months, or even years, might be consumed in developing a car by ordinary driving, while the same information may be obtained in days, or even hours, in road and track racing events. It may be argued that manufacturers can subject their cars to such tests without the element of competition and with such great personal risks. The answer is, that manufacturers could not afford and could not reasonably be expected to make such tests of cars without material inducements to warrant the same. These inducements would be utterly lacking in any privately conducted developing tests and it can be asserted, without fear of successful contradiction, that the ultimate testing of motor cars without the element of contests is but the dream of impractical persons. While the death of a human being in motor car contests is a deplorable thing and to be guarded against in every possible way, a broad and far-reaching view of the situation shows plainly, possibilities of saving human life, through the development of motor cars in racing contests far in excess of any possible loss of life by reason of such contests.

"There are perhaps a half million motor cars in use in this country at the present time. An insufficiently developed motor car is a menace to the life of every person who uses one of these cars every day that he makes use of the same. The public press teems with reports of motor vehicle accidents in which human being are killed or seriously injured. The published accounts of many of these accidents indicate on the face of the report, that imperfect development of the car was the cause of the accident. In a very few years millions of motor cars will be used in this country and

every practice, whether it be by racing contest or otherwise, will promptly secure the earliest possible perfection of the motor car, is to be commended and encouraged. While racing contests with stock chassis models are to be preferred as insuring the most efficient development of motor cars for commercial purposes, it can be said on the other hand, with absolute assurance, that every manufacturer who produces a car of any design that takes part in such a contest as the great International Sweepstakes event is not only capable of, but will undoubtedly make better motor cars for the trade and public than he would have made, or could have made if he had not taken part in the event."

Better Roads in Nangatuck Valley

From New York to Waterbury, Conn., through the Nangatuck Valley road conditions are very good as a result of early improvements which have made throughout this section.

The first seven miles from Waterbury are macadam. The next ten or twelve miles wind-

ing along the most beautiful part of Nangatuck River are in splendid condition. Going west to Danbury and New York from Waterbury, about twelve miles of State gravel road is in excellent condition, through Watertown to Woodbury and then direct to Southbury.

Towards the east from Waterbury the first few miles are at present undergoing repairs, and the construction of a State road to connect with the Hartford, Springfield and Boston Trunk line is in progress, there remains about five miles of State road to be made to connect Waterbury with the system at Southington, part of which will be a macadam road down Southington Mountain, which will rival Jacob's Ladder in beauty and scenic grandeur.

Leaving Waterbury bound for the Berkshires extensive road improvements are just nearing completion. The road from Waterbury to Thomaston is in good condition, and as one nears Reynolds Bridge the results of the past year's extensive road improvements are at once apparent.



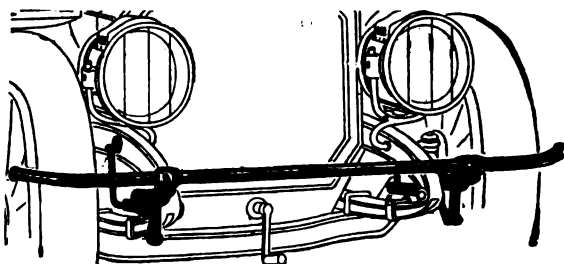
FLANDERS "20" UNDER THREE FLAGS CAR IN FRONT OF WINTER PALACE FROM WHICH PRESIDENT DIAZ, OF MEXICO, FLED HIS COUNTRY

Various Types of Bumpers

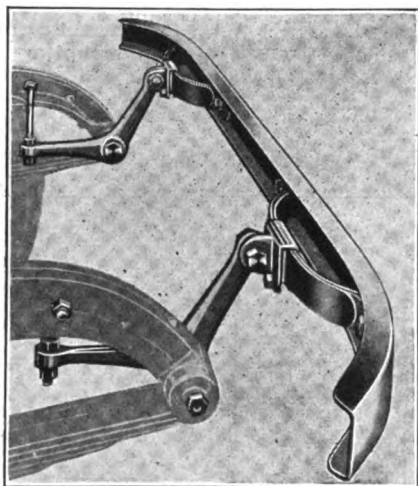
The time when bumpers were regarded with indifference or even hostility has passed, and in its stead there exists on the part of motorists a steadily increasing desire to possess these useful, and at times necessary articles. The bumper has, in fact, a double use; it safeguards the pedestrian who gets in the way of an approaching car and frequently preserves him unscathed; and it protects the car—particularly the radiator, lamps, fenders, etc., from injury by collision with other vehicles and incumbrances of all kinds. These parts are all protruding and all unprotected. A good solid blow can demolish them and do damage to the extent of a big repair bill, besides putting the car out of commission for days or weeks.

There are quite a number of bumpers on

wide, and it is supported by broad semi-elliptic steel springs with four points of contact. The Conover is very attractive, being quite distinguished by its massive construction. It is manufactured in two sizes, large and small. In solid bronze, the price is \$25, and for



GROSSMAN'S "SWIVELACTION"



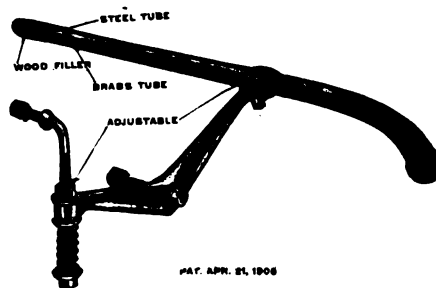
THE CONOVER SAFE-GUARD

the market today, but their use is comparatively limited. Oftentimes the most expensive cars are without them, and few owners seem to realize their necessity until they have used them. The following matter describing the various types of bumpers made has been prepared with a view of aiding AUTOMOBILE TOPICS readers in making their selections:

One of the latest safety devices is the Conover Safe-Guard, manufactured by the New Jersey Tube Company and sold by the Lovell-McConnell Mfg. Co., of Newark, N. J., makers of the well-known Klaxon horns. As the illustration shows, this Safe-Guard is quite different from the pipe type of bumper. Instead of the tube construction of the latter, the Conover is a heavy channel bar $2\frac{3}{8}$ inches

nickle or gun metal finish, \$5 extra is charged. In best quality of steel and heavily enameled in black, royal blue, French gray or maroon, the price is \$20.

The "Swivelaction" is the name of a very sturdy bumper made by the Emil Grossman Co., of New York. This bumper sells for \$16 for nickel finish, \$15 for brass finish, and \$12.50 for a black enamel finish. The "Swivelaction" is made of malleable steel. The bar is a seamless steel tube, $\frac{1}{8}$ -inch in thickness, $1\frac{5}{8}$ inches in diameter, 5 feet 2 inches long, and is heavily copper and brass plated. The bar is connected by two swivel joints to pivoted levers working in slotted sleeves against flexible spiral springs, giving soft and easy cushion. A blow on the full face of the bar

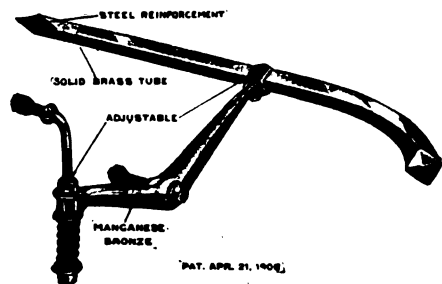


THE SAGER "PROTECTION" MODEL

is absorbed by the springs. A glancing side blow (as delivered when turning a corner or in striking an obstruction with one end of the bar) is taken care of by the swivel joints, which oscillate and carry the jar to the springs.

The springs are said to provide for a compression of 1,500 pounds, assuring plenty of resiliency and recoil.

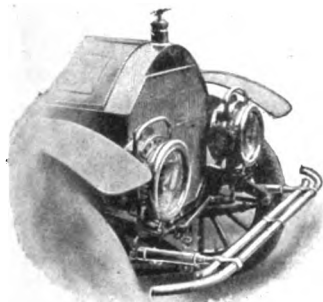
The Victor Auto Supply Mfg. Co., of New York, make what they call the "Vasco" bumper selling at \$15. The "Vasco" is made to fit any car, and can be attached without the necessity



THE "DIAMOND," ANOTHER SAGER PRODUCT

of drilling holes in the frame. It is made of a heavy steel tube, over which a brass shell is drawn. The springs, which are concealed in telescoping tubes, are made of square steel.

Two bumper models are made by the J. H. Sager Co., of Rochester, N. Y. One of these is known as the "Protection" and ranges in price from \$15 to \$22.50, according to the finish desired. The "Diamond" is the other model, its price being \$25 for a brass finish, or \$27.50, for a nickel plated finish. The first named bumper is of the round tube type, and unlike a great many bumpers it stands six inches above spring hangers. In this bumper

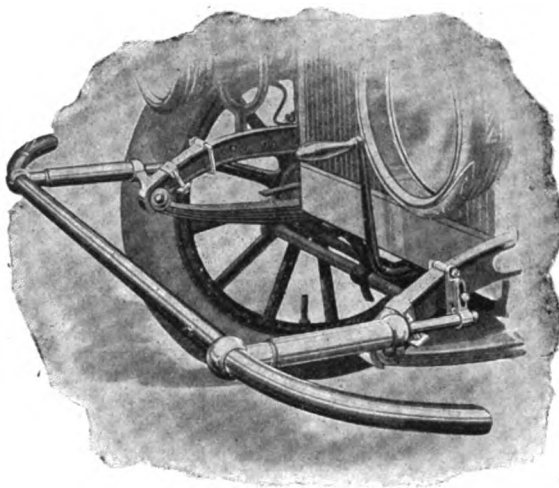


"UP AND DOWN" MODEL OF RANDESON CO.

a brass tubing 1-32 inch thick covers a strong steel tube, and this is reinforced throughout its entire length with a hickory wood filling. The "Diamond" bumper is very similar to the "Protection," the only difference being in the bumper bar. This consists of a diamond-shaped bar, made of very heavy solid hard-

ened brass, reinforced with thick open hearth steel. Both bumpers have manganese bronze beel cranks.

An adjustable bumper having automatic operating principles, is made by the Troy Auto Specialty Co., of Troy, N. Y. This bumper may be readily raised or lowered at will, to admit easy and clear access to the starting crank. To release the bumper from its "service" position it is only necessary to pull the bumper rail forward, which compresses a set of steel springs in a rotary plate, at the same time disengaging a projection on the rotary plate with its recess in the stationary plate. The bumper may then be raised or lowered as desired. Return it to a horizontal position and the secondary springs will cause the bumper



GARAGE EQUIPMENT CO.'S BUMPER

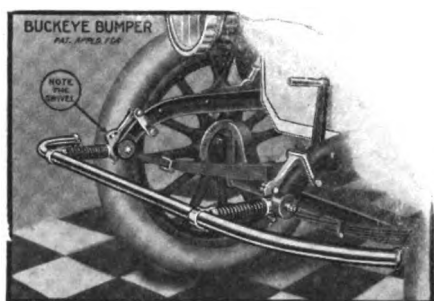
arms to lock automatically. This bumper is constructed of manganese bronze throughout, with the exception of the rail, which is steel tubing, reinforced with a second steel tube. The outside steel tube is covered with a third tube of brass. The Troy product sells complete, ready to attach, for \$20.

Another bumper of the adjustable type is the "Up or Down" model of the Randerson Auto Parts Co., of New York. The adjustment mechanism of this bumper is embodied in the supporting arms, which consist of a piston and cylinder. By means of hinged joints in the pistons and an arrangement for the piston to slide in and out of the cylinder the movable operations are accomplished. The illustration shows a new double rail Randerson bumper constructed on the up and down

principle. This bumper is designed particularly for large cars. The double rail bumper sells for \$30, while a single rail model can be had for \$25.

The National Safety Fender is a rubber cushion device sold by Pratt & Jones, of Chicago. This apparatus consists of a rubber cago.

This apparatus consists of a rubber cushion $2\frac{1}{2}$ inches in diameter by $64\frac{1}{2}$ inches long. It is made of 9-ply of fabric, with rubber inside and out, leaving an air space of $1\frac{1}{2}$



THE "BUCKEYE"

inches, plugged at the ends. This cushion is fastened to a steel frame, the latter being attached to the front end of the car in much the same manner as the ordinary bumper is attached. One of these cushion fenders sells for \$25.

Various types of bumpers are marketed by the Garage Equipment Mfg. Co., of Milwaukee, Wis., the most popular of which is the "Universal" spring bumper, selling from \$8 to \$12, according to the finish desired. This bumper can be attached to any car without drilling holes in the frames or removing spring hanger bolts. It simply clamps onto the frame.

The Central Brass & Fixture Co., of Springfield, O., make the "Buckeye" bumper shown in the accompanying illustration. This bumper is fitted to any car with channel spring supports without drilling the channels, and is applied in a few minutes time with a common wrench.

It is equipped with a "swivel" attachment which allows for horizontal position of coil spring irrespective of the curve of the channel. The "Buckeye" is made with $1\frac{1}{4}$ inch or 2 inch rail, the price ranging from \$11.25 to \$27.

Boston Treats its Children

Close to 2,000 poor, blind and crippled children of Boston were given their annual automobile ride as guests of the motor car dealers and owners of Boston on June 5. The outing was in charge of Chester I. Campbell and the Rev. M. R. Deming, of Tremont Temple, and owners of 386 cars donated them for the use of the children for the day. The little ones were given a ride from Boston to the Lake Shore Home at Massapoag Grove, Sharon, where they were entertained royally with games, boat rides and a dinner. The chauffeurs who piloted the cars carrying the children also received their share of the entertainment in the form of athletic events with prizes given the winners.

Proposes Special Tax for Use of Parks

In his report to Governor Foss, of Massachusetts, upon the investigation into the work of the Metropolitan Park Commission, Walter A. Webster, of Boston, suggested that a special tax be levied upon automobilists for using the Boston parkways. Mr. Webster believes that through this sort of a tax the State could secure \$15,000 additional annual revenue. He suggests that a special automobile license of \$5 for cars of less than 30 hp. and \$10 for those of greater be required for automobiles using the metropolitan parks.

"The New Art of Flying"

All persons interested in aviation will find the book entitled "The New Art of Flying," published by Dodd, Mead & Co., most interesting and instructive. The author of this work is Waldemar Kaempffert, managing editor of the *Scientific American*. It is a volume of 290 pages with about 80 illustrations, and it is written in a manner which the unscientific reader will find perfectly clear and absorbingly interesting. The price is \$1.50 net.

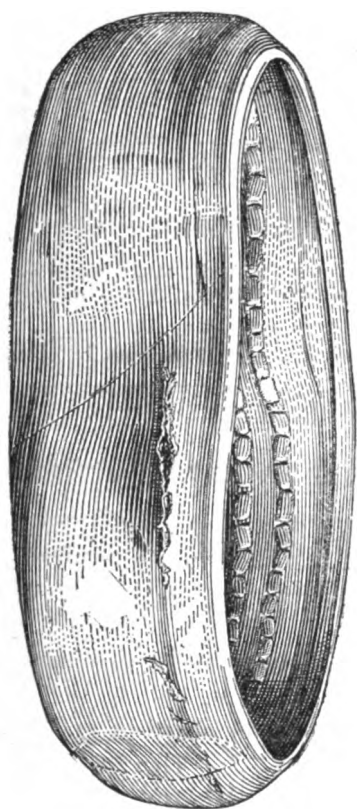
The Automobile in Police Service

With the installation of a third gasoline patrol wagon, the police department of Indianapolis has displaced all horses in the service except those ridden by the mounted police squad. The department now has two Packards for hauling prisoners to police headquarters; a Rapid for raids and taking prisoners to the workhouse, and a National touring car for emergency runs.

U. S. Tire Co. Issues Valuable Booklet

"How to Keep Down Your Tire Expense," is the title of a most interesting and instructive booklet which has just been issued by the Service Bureau of the United States Tire Company. This booklet is exceptionally well illustrated, and it contains a great many valuable suggestions on the use and care of pneumatic tires.

The accompanying illustration, taken from the booklet, shows the effect of using a tire without sufficient inflation. It is pointed out



RESULT OF INSUFFICIENT INFLATION

that the violent kneading and bending to which the side walls of the casing were subjected, caused the fabric to break and tear along both sides of the tread, until finally a blowout occurred. In connection with under-inflation evils, a table is given, showing the proper air pressure to be maintained in accordance with the size of tire used.

Included among the subjects treated are skidding chains—their effect on tires, natural

enemies of tires, how to carry spares, care of tires during the winter, alignment of wheels, use of soapstone, second-hand tires, changing the position of tires, speeding, etc.

Packard Will Continue Yearly Models

That the Packard Motor Car Company would continue to adhere to the time-honored policy of producing yearly models was made plain this week when Vice-President S. D. Waldon gave out a statement relating to the matter.

"The public is the real judge in this matter, and it is accustomed to classifying automobiles by their season rather than by technical changes in construction," said Mr. Waldon. "The buyer of the latest model does not designate his new car as the one with such and such a feature, but as a 1912 car.

"Automobiles are manufactured most successfully in quantity," he continued, "and it follows that their development must be accomplished by changes corresponding to the production of different factory lots. When the changes are made annually the factory operates to the best advantage by being able to produce an entire season's output that is identical in construction and design. This policy also meets the public demand for new styles each year.

"In advancing the date of our early announcements, the process has been gradual, but has followed a well-defined plan. In bringing out a new model each year, for twelve successive seasons, we have lapped the calendar, so to speak, by launching the output of each new car about a month in advance of the time its predecessor was introduced.

"In this experience, we have learned the advantages of introducing new models at all times of the year and we are settled in our belief that the best time is mid-summer—say in July. At that time of the year the weather has become settled, and the period is usually free from business disturbances and other conditions which might interfere with sales and deliveries. In fact, we are so well convinced of the manufacturing and commercial utility of the annual model and the great desirability of the change being made in mid-summer that we have already made plans for the observance of this plan in our future business."

Automobile Topics

Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Published by AUTOMOBILE TOPICS (Incorp.)

S. WALLIS MERRIHEW, President and Editor.

THEO. DRAZ, Vice-Pres. and Treas.

W. A. SMITH, Business Manager.

W. E. BALDWIN, Secretary.

Vol. XXII. No. 10.

NEW YORK, JUNE 10, 1911

Price, Ten Cents.

AUTOMOBILE TOPICS is published weekly by Automobile Topics (Incorp.), Terminal Building, 103 Park Avenue (Cor. 41st Street), New York. Subscription price, \$2.00 a year in the United States, and \$4.00 (gold) in advance in Canada or in foreign countries within the Postal Union. Advertising rates may be had on application.

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Cable Address—Autotopics, New York.

Telephones { 5524 } Murray Hill.
 { 5525 }

One Way to Keep Down Tire Cost

It is doubtful whether it will ever be possible to say too much about the dangers of under-inflation of tires. Too often garage keepers repair men, etc., warn tire users against over-inflation, especially on warm days or when about to take long runs. Yet over-inflation occurs but seldom, and it is more rare still for evil effects to follow as a result thereof.

Under-inflation, however, is an evil that must be combatted always. The tire people will tell you that tires are constructed to stand much more than the pressure which they should be inflated to in order to properly carry the load. They go farther and say that it is almost impossible to inflate a properly constructed tire to an extent sufficient to cause harm. On the other hand, an insufficiently inflated tire is undergoing rapid deterioration every mile it is run. The danger is greater by reason of

the fact that it is not discernable; the fabric may be rubbing and grinding itself to powder without the eye seeing it or its being known at all.

The average motorist complains bitterly of excessive tire cost, and is inclined to place more than a fair share of the blame on the tire manufacturer. There is but one way to keep tire costs down to a minimum, and that is to treat the tire as such a delicate piece of mechanism(?) should be treated. Have your pump and tire gauge ever ready. Keep a careful watch for cuts and gashes, seeing that they do not penetrate the fabric and leave it open to the entrance of water and other deleterious substances.

In the use of tires the proverbial ounce of prevention is of the greatest possible importance. A stitch in time may obviate the necessity of buying a new casing.

PREVENTIVES AND REMEDIES

More than once the loss of a bolt or nut has caused a driver no little trouble. After every run out on a car the air tube valve nut and also all the securing bolt nuts should be carefully gone over to feel whether they have worked slack. With the running on the road this frequently happens, so that is a good plan to try all of these with a pair of pliers, as the thumb and finger grip on these is not sufficient to tighten them up satisfactorily. If the bolt nuts are allowed to get slack, there is great tendency to shear the bolts or deform their heads. The heads tend also to tip up, and the result is that the inner tube gets nipped beneath the head, and in a very short time bursts, thus causing serious trouble on the road.

In adjusting the contact breaker screws when the contact breaker is of the positive make-and-break type, care should always be taken to see that the small locking screw, which is provided in the split end of the screw-supporting pillar is properly locked after the adjustment is made. Also, it should be noticed whether locking up this screw affects the adjustment of the contact screw, as this sometimes happens. When the contact-making screw is not properly locked up, the constant tapping on it of the trembler blade invariably works it farther back, so that the adjustment does not keep correct for any length of time, and, consequently, the annoyance of misfiring is experienced very frequently.

Among the many noises that are likely to develop in an automobile are those coming from deficient bearings. A crunching noise in a bearing should receive immediate attention, the bearing being taken apart in order to discover the cause. It may be found due merely to the presence of some grit, though that is bad enough. In this case a thorough cleansing of the bearing and lubrication will cure the trouble. If one of the balls is found to be broken, all the bits must be removed and a new ball inserted. But unless the new ball is a shade too large, it will also certainly cause trouble. When the bearing is apart the cones and cups should be carefully examined for scores and cracks, and if these are found, the parts affected should be renewed at the

earliest opportunity. In some cases, where the damage to the bearing parts is serious, it is best to remove the balls and let the bearings run on the plain surfaces as far as the nearest point available for repairs. If a spindle has been cut into so as to weaken it materially, the load should be lightened as much as possible, or the run discontinued entirely, pending repairs.

Should the gasoline pipe get broken it may be temporarily repaired by forcing a short piece of rubber tubing over the broken ends. If the hole is only small, squeeze a piece of soap into it, and secure it by tying a piece of soaped rag around it with a piece of twine.

A cylinder missing fire, particularly at high motor speed when the motor is running idle, is generally caused by the lack of gasoline or surplus of air, and is accompanied by a popping back in the carburetor. This is where the float level is correct. If the float level is too low, the same effect will be noticeable. Either a little more gasoline through the medium of the needle valve or a trifle less air will generally effect a cure.

The most usual cause for knocking in an engine is loose bearings or an unlubricated piston, but there are times when the cause of this annoying trouble can be found elsewhere. A twisted crankshaft is one of the usual causes of knock. Another is a deposit of carbon on the piston top and walls of the compression chamber. Clean this all off, and it is probable that the knock will disappear. In the case of such unaccountable development it is easier to begin by clearing off the deposit if the heads are separate from the cylinder.

To determine whether the radiator is clogged, disconnect the lower pipe—the one running to the pump—and see if the water flows freely. If not, the radiator is clogged. To remedy this attach a hose and resort to slight pressure to remove the obstruction. If water pressure will not suffice, about 25 pounds of air or steam, the former preferred, will in all probability do the work.

COMMERCIAL MOTOR VEHICLES

Wide Field for Electric Companies

The recent convention of the National Electric Light Association in New York, brought to light the fact that electric lighting and power companies are keenly awake to the immensity of the field for the sale of commercial power offered them in the electric automobile. One of the best attended sessions was that at which the relation of the power station to the electric automobile was considered. This session was held on June 1.

The subject was presented by J. T. Hutchings, chairman of the Committee on Electric Vehicles, in a comprehensive paper and was followed by an interesting discussion by managers of plants in all parts of the country. The dominant tone was that companies making power thoroughly appreciate the necessity for encouraging this outlet for their product from a mercantile standpoint, while from their own position as consumers of vehicle service they recognize great advantage from the electric auto. Mr. Hutchings' paper was in two sections, the first having to do with the use of electric cars in the electric service, and the second referring to the need for co-operation between power producers and car makers.

In the latter connection Mr. Hutchings gave electric vehicles a decided "boost" and urged members to do all in their power to encourage the use of this type of cars. He said in part:

The electric pleasure vehicle has become very popular in many of our cities, and to show how popular your committee requested various manufacturers to give us the number of vehicles sold last year. The total reported was 4,513. We feel that this is very encouraging, especially as all the manufacturers report a very healthy increase for the first three months of this year. The pleasure vehicle has come to stay, and is becoming more and more popular.

In the commercial field, however, your committee finds that the public is not familiar with the many advantages of the electric vehicle for convenience and economy in transporting merchandise. In almost every city there are from twenty to thirty makes of gasoline trucks competing with one or two electric trucks, and manufacturers of electric vehicles are handicapped, for the reason that they are unable to put out enough vehicles to reduce the selling price, and the agent selling electric commercial trucks finds his competitor in gasoline trucks able to quote a very much lower first price, and, up to the present time—there being no reliable data as to

the cost of operation—the natural sequence is that the electric vehicle is not receiving the attention it should.

Your committee feels that every central station should itself use the electric vehicle to the exclusion of any other method of conveyance, thus having first-hand knowledge of many advantages of the electric vehicle over other methods of transportation, and should keep its records in such condition as to be able to show users of motor vehicles the actual costs of operation per day, per mile, and the number of days the vehicle was in actual use. At the present time it is very difficult to get much accurate data on this subject. We cannot effectively push the use of the electric vehicle if we ourselves have no reliable information as to cost of operation. We feel that when we are in a position to show the actual costs, for comparison, that the electrically propelled vehicle in its field will be seen to be very much more economical in operation than the gasoline.

The total cost of operating vehicles may be classified under three general heads: (1) General expense—such as supervision, garage rent, wheel tax and State license; (2) Operating expense—including the cost of oil and other supplies, general repairs, cost of electric energy, cost of repairs in tires and other batteries, drivers' salaries, washing, oiling, and minor repairs, and garage expense; (3) Fixed charges—interest, taxes, insurance and depreciation.

Under the heading of "general expense," the conditions in various parts of the country are so different we give no definite figures. From reliable data regarding "operating expense," which has been carefully compiled over a period of three years, we have the following data on one and one and a half ton wagons:

Average days in service per wagon per month	24
Average miles per day in service per wagon	29½
Average kilowatt-hours per mile .....	.491

Costs

Operating expense—Cost per mile:	Cents
Oil and other supplies .....	.6
General repairs	1.4
Electric energy at 4c per kilowatt-hour	2.
Tires	1.62
Batteries	1.7

Making a total of, per mile

7.32
These are the items of expense common to all who are operating under average conditions. To find the total operating expense, however, the following figures must be added to the above items: Salaries of drivers, cost of washing and minor repairs and garage expense. These three items are variable, depending on local conditions, and so we give no figures for them, leaving it to

each central station company to fill in this information for itself.

The average merchant does not ordinarily figure charges, and our gasoline competitors are generally careful to omit such items. In figuring total costs of operation, however, fixed charges must be taken into account. We recommend that fixed charges be made on the following basis: Interest, taxes and insurance on the total cost of the vehicles, less cost of tires and batteries.

From the foregoing we believe it would be possible for all the central stations using electric vehicles to map out a system of operating records which would enable them to show prospective users the advantages of the electric truck, and these records should be available for the agents handling electric vehicles in your territory.

It is the opinion of your committee that, where there is at the present time no active competition in the sale of electric vehicles, it would be well for the central stations to take this matter up and show the possibilities, as has been done in the handling of motors and other special electric appliances, believing that when the central station has shown the possibility there will be plenty of healthy competition in the sale of electric vehicles. Where, however, there is a good, healthy competition it would be well for the central station to encourage it in every way possible, and they will find it unnecessary to enter into the business direct.

Your committee has also taken up the question of efficiency in tires on pleasure vehicles, and would report that there is a difference of from 30 to 70 per cent. between the heavy gasoline type of tire as regularly sold and the best special electric tire on the market. This difference means nearly doubling the mileage and doubling life of the battery, if the vehicle is given proper attention otherwise. This question of tire efficiency will often account for increase in electric bills and other complaints from consumers.

The committee feels that the central station should encourage this business by low rates as much as their policy will allow, having particular regard to the fact that the time when business needs the most encouragement is at its inception. We believe that a part of this difference in price could be judiciously charged to advertising.

This advantage given the electric vehicle by insurance companies is very considerable. The matter is receiving special attention by the insurance expert of the association, and besides this, a committee of our sister society, the Electric Vehicle Association of America, is also doing what it can to improve present insurance conditions. Suffice it to say that the liability insurance companies are beginning to realize the difference between a gas car and an electric. The difference in speed of the two should also make a material difference in rate. The gasoline pleasure car frequently makes from 45 to 60 miles an hour, while the maximum speed of the pleasure electric car is between 20 and 25 miles. The electric is under perfect control and is so simple of opera-

tion that, in case of emergency, the operator does not become confused as to which operation to perform. Because of the lower speed, when collisions occur, the impact is less severe and the damage consequently slight. The heart of the machine, the motor in the electric, is under the car and out of harm's way, while the engine in the gasoline car is in front and subjected to serious damage when a collision occurs. Absence of inflammable fluid in the electric makes a fire practically impossible.

The freedom from fire in a garage which is strictly electric, as compared with a gasoline garage, is self evident, and the fire insurance companies are beginning to make a rate accordingly. Our customers will readily appreciate these advantages when attention is called to them, and in time we hope that all the rating boards of the insurance companies will give proper credit for them. We also find that, where electric garages can be satisfactorily sprinkled, a very low rate can be obtained.

We have in the past been dissatisfied with the operation of storage batteries in connection with electric vehicle work, but with the many improvements which have been made in various types of storage battery applicable for vehicle work your committee feels that the question of the battery is not a serious one. Our advice to central stations intending to inaugurate an electric vehicle campaign would be to select one man from the organization who is most available and send him for a month or six weeks to the various factories where electric vehicles are being built and batteries assembled, to give him a thorough insight into the practical and necessary knowledge of what is essential in electric vehicle maintenance.

Your committee wishes to again emphasize the necessity of every central station using electric vehicles in its own work. First, on account of the saving and economy; second, as an encouragement to those in your community who could use electric vehicles with economy and satisfaction. We would urge the necessity of having accurate systematic records of cost of operation of your own vehicles, which should be so arranged as to be available to your soliciting department and to manufacturers and dealers in electric vehicles as an aid in selling additional electric wagons.

Move Bungalow on Alco Truck

Harry Bell, of Spokane, Washington, who handles the Alco Truck in that territory, recently made a very novel and successful demonstration with one of his trucks. He load a bungalow weighing four and a half tons on a truck of three-ton capacity and hauled it from McGoldrick Lumber Yards to Liberty Lake, a distance of twenty-five miles, in one hour and forty minutes.

Specially Constructed Ice Cream Truck

W. H. Koughan, an ice cream dealer, of McKeesport, Pa., has found that he can make deliveries to customers in suburban town much more satisfactorily with a motor vehicle than by means of horse-drawn conveyances. As a result, East McKeesport, Wilmerding, Pitcairn, Trafford City, which is sixteen miles away, Wall's Station, thirty-two miles away, Elizabeth and Clairton, now are all supplied regularly by a new Packard motor truck.

To meet the needs of this particular business, a special body was designed, and mounted on the standard Packard three-ton truck

The body is divided by a cross aisle, which divides it into two compartments. The front compartment is sub-divided into three sections, one for carrying salt, another for cracked ice and the third for cans and buckets. Cans of cream may be carried in the rear compartment, packed in ice. The tarpaulin is made to cover the entire body of the truck.

Michelin's New Twin Tire Catalogue

A booklet that will be of particular interest to owners of heavy pleasure cars or commercial vehicles, is a new twin tire catalogue just issued by the Michelin Tire Company, of Mill-



CATERING TO THE ICE CREAM CUSTOMERS

chassis. The inside length of the body is twelve feet, the width is six feet two inches and the sides are three feet high. The entire body is lined with copper without any bolt or screw holes in it, through which salt water might work its way. Furthermore there is a copper drainage system running lengthwise of the body, which carries the water beyond the rear axle and clear of all mechanism.

A steel mesh grating is placed over the copper lining and extends about five inches up the sides, effectually protecting the copper from being punctured or dented by the shovels.

town, N. J. This booklet takes up the question of twin tires and twin wheel equipment at considerable length, and gives details and instructions for the use of this equipment.

The Michelin people advocate the use of these twin pneumatics overcome entirely the of the tire problem of heavy cars. They say these tin pneumatics overcome entirely the many disadvantages of solid tires and at the same time increase the durability of single pneumatics in a ratio of more than five to one. Copies of this book may be secured free from the Michelin Company.

Cut Down Your Tire Expense

Don't make the mistake of considering the question of tires simply an incidental matter of automobile equipment. You should give just as careful study to the selection of your tires as to the selection of your car, for the kind of service you get out of them will have more to do with the yearly expense of running your automobile than any other single factor.

This maintenance expense is what you want to watch.

You know what your car cost you, and you know what your gasoline costs. It's well to come as near as possible to knowing what your tires cost. And the thing that fixes their cost is not so much what you pay for them as what you get out of them.

United States Tires

Continental
G & J

Hartford
Morgan & Wright

are the world's economy tires. They are manufactured under conditions that are really unique in the history of tire making.

Five immense factories:

Five modern laboratories in charge of men freely recognized as among the foremost rubber experts in the world:

The most up-to-date equipment known to the rubber industry:

A system of manufacturing by which the strongest individual points of four of the country's leading makes of motor tires have been incorporated in all of the four brands:

And an aggregate manufacturing experience that is not approached by any other tire manufacturer.

These are some of the extra favorable conditions under which UNITED STATES TIRES are made—conditions which give the users of these four famous brands a distinct advantage in tire wear, and therefore in tire cost, over the users of tires made under conditions obviously not so favorable to the manufacturing of extra serviceable tires. Yet UNITED STATES TIRES are sold

**AT PRICES NO HIGHER THAN
ASKED FOR OTHER KINDS**

Seven styles of tread, including the famous non-skid Nobby-Tread, and three styles of fastening.

United States Tire Company, New York

Branches, Agencies or Dealers Everywhere

Send in this Coupon to our Service Bureau

Service Bureau, United States Tire Company
1787 Broadway, New York

Please send me your Instruction Book about the care of tires, and all subsequent literature to be issued by the Service Bureau.

Name

Address

Make of Car.....

Tires

Loose Sheets of This and Previous Sections May be Obtained by Remitting 10c. for Each

NEW YORK TO BOSTON

Second Section—Hartford to Boston

The second section of the New York-Boston tour takes the tourist over a more direct and, on the whole, a better route than the old one through Springfield. The details follow:

Start east on State Street. Turn left on new Connecticut Boulevard and immediately beyond pick up trolley tracks. Follow same direct to

Manchester (11 miles).

Continue with car tracks to Talcottville. Over small bridge and follow State road. At end of road turn left and then right up hill to

Rockville (19 miles).

Take right and then left turn at top of hill and then straight ahead to Tolland. Turn left at white church and left again onto main road to Stafford Springs. At first fork keep to right and then straight to

Stafford Springs (31 miles).

Going down Main Street turn left and then right up steep hill. At fork take left hand road and at next fork right hand road. Turn right at next cross roads, and again turn right at another cross roads, a short distance beyond and then direct to

Union (40 miles).

Take Southbridge Road through Mashapaug and direct to

Southbridge, Mass. (49½ miles).

Take road direct north, 5½ miles to Charlton City, thence north-by-east to North Oxford and Larnedville. Follow road taken by trolleys; when they turn right keep straight ahead, meeting them again and the State road at Dunn's Pond. Follow trolleys and turn right into Main Street of

Worcester (70 miles).

Run on Front Street along City Hall Common and at fork beyond R. R. bridge bear left over R. R. grade. Straight ahead bearing right into Belmont Street. Follow trolleys and bear left on Maple Avenue. Straight ahead into

Northbro (80 miles).

Straight through, taking right turn with trolley at "T," turn about 1 mile beyond. Keep straight ahead after trolley turns left, meeting it again a short distance beyond. Follow the trolley into

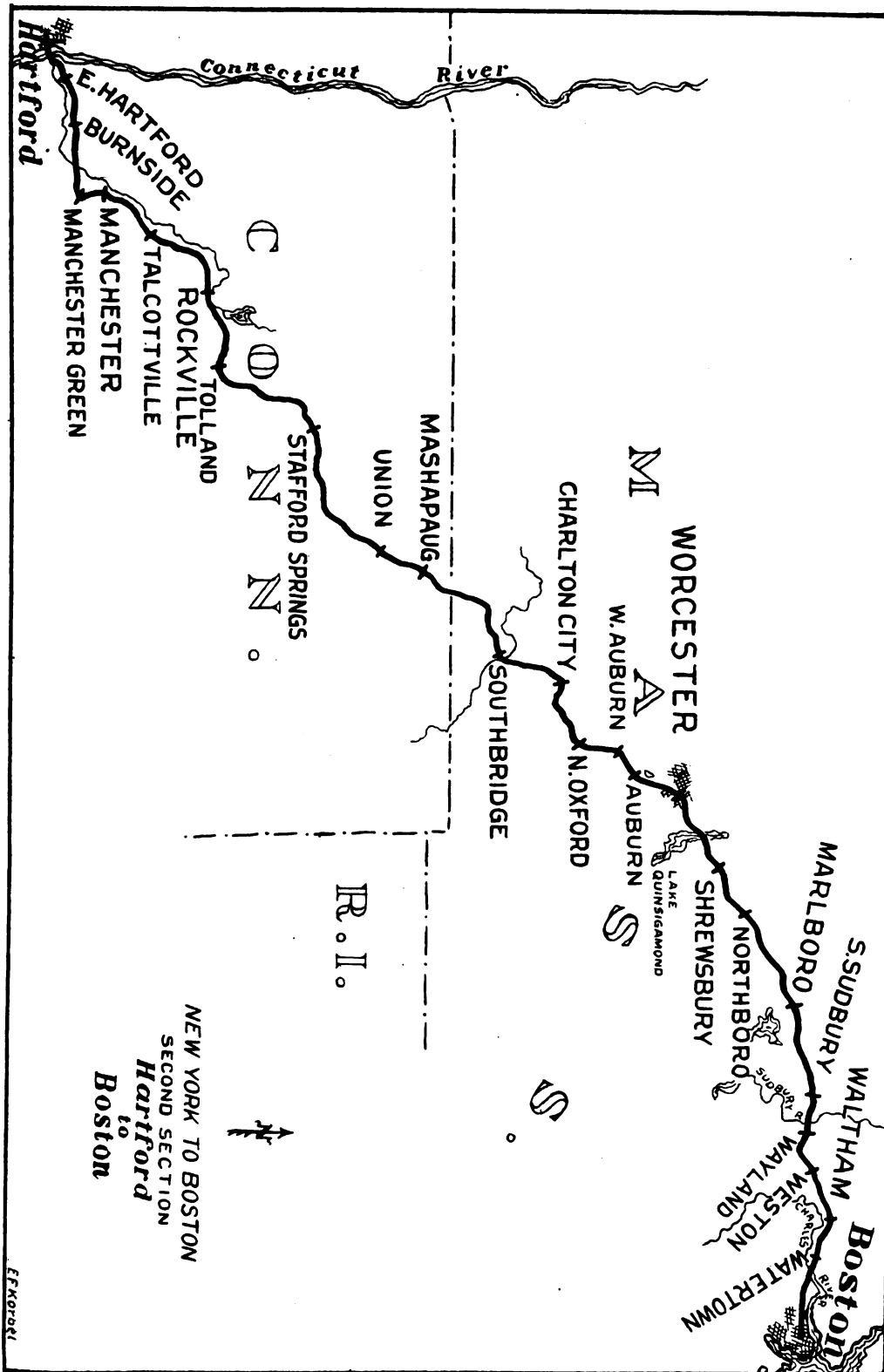
Marlboro (85.6 miles).

Follow trolley, taking left turn. At cross roads leave trolley, keeping to right. Keep right on main road at fork beyond. Straight ahead on macadam road to Central Avenue at fork beyond. Straight ahead on macadam road to Central Avenue to

Weston (99.8 miles).

Turn right into School Street, bearing right at "T" in road just beyond. Turn left into Newton Street and follow same till end of street. Turn left into South Avenue. Follow same onto Commonwealth Avenue extension. Continue on macadam until Chestnut Hill Avenue. Turn right. Straight ahead until intersection of Commonwealth Avenue. Bear right and continue along Commonwealth Avenue to Massachusetts Avenue. Turn right and then turn left on Boylston Street. Straight to Boylston and Tremont Streets,

Boston (114.1 miles).





CARHARTT CARS

First in Beauty of Outline
The Last Word in Durability

CARHARTT BUILDING

67th Street & Broadway
New York

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

INDUSTRIAL AND TRADE NEWS

Will Manage Detroit Properties

The appointment of Frank Briscoe, one of the vice-presidents of the United States Motor Company, to a position where he will have general charge of the Detroit properties of that company, is announced. Mr. Briscoe will have offices in the new United States Motor Company building, his appointment is in line with the policy of the company to centralize and perfect its organization and to realize all the economies possible.

Mr. Briscoe in his present capacity will have general charge of the Detroit companies of the United States Motor Company. They employ from 3,500 to 4,500 men and represent an annual production of over \$7,000,000. Next year these figures will be considerably higher.

Mr. Briscoe is one of the motor industry's most prominent figures. He entered business in 1901 with his brother, Benjamin, now president of the United States Motor Company, in the Detroit Galvanizing and Sheet Metal Works. From this company grew the Briscoe Manufacturing Company, pioneers in making automobile parts. In 1904 Benjamin Briscoe left to found the Maxwell-Briscoe Motor Company in Tarrytown, N. Y., and Frank Briscoe assumed charge of the Briscoe Manufacturing Company. After 1906 he left active management of this company to John Boyle and organized the Brush Runabout Company. Mr. Briscoe now relinquishes active management of the Brush Runabout Company to C. S. Briggs.

Mr. Briscoe was born in Detroit 36 years ago. He is a graduate of the University of Michigan.

Oakland Cars for England

General Manager George E. Daniels, of the Oakland Motor Car Company, was in New York recently to close negotiations with representatives of a London importing house for the distribution of Oakland cars throughout Europe. Edgar King, of the firm of Instantner, Ltd., of the English capital, had been a guest of Mr. Daniels at the Oakland factory, Pontiac, Michigan, and he was enthusiastic and at the same time impressed with everything he saw in connection with the manufacturing of the Oakland. Mr. King famalarized himself

with the factory details and the various Oakland models and he speaks interestingly of the motor car conditions in England.

Ubiquity of the Fiat

Of that wonderful institution, F. I. A. T., few men can discourse more eloquently and interestingly than J. S. Josephs, the presiding genius of the big Italian company in this country. It is, like many other famous concerns, a one man institution, the dominating factor being Chevalier Angelo, who is not only a mechanical marvel, but a wonderful administrator.

Fiat cars are sold in all the civilized countries in the world. Not only are the automobiles produced in the great works at Turin, Italy, well and favorably known all over Europe and the United States, but they are sold annually in quantities in South America, Asia and Australia.

Of the 4,000 cars produced each year in the Fiat works at Turin, Great Britain and Italy each take 500 annually. Motorists of South America buy 450 Fiats each year and 400 are sold in the United States, France and Austria taking the same number as this country. German buyers take 350 Fiats each year and automobilists of Russia and Australia each buy 150 of the Turin-made cars annually. In Scandinavia the sale of Fiats reaches the one hundred mark every year and Mexico and India each take 80 cars annually.

Spain takes 75 each year, Portugal 50, China and Canada each 30 and 20 are sold in Japan every year. In addition to the numbers taken by the countries named the Fiat concern sells 200 cars each year that are sent to countries not given in the above list. No other car enjoys such a world-wide popularity. At the present time there are about 1,500 Fiat cars in the United States.

Pelletier at the Helm Again

That Roy Pelletier is in the saddle again is the news that comes from Detroit. The man who did much to push the E-M-F. Company to the front has been called upon again to direct the advertising of the Studebaker Corporation, with the title of advertising director.

He will handle the advertising of all of the Studebaker interests, which, of course, includes the E-M-F. Co. He will work in co-operation with W. E. Flanders, president of the E-M-F. Co., who is also third vice-president of the Studebaker Corporation, and has supervision over all Studebaker publicity work

Haynes Factory Rising Fast

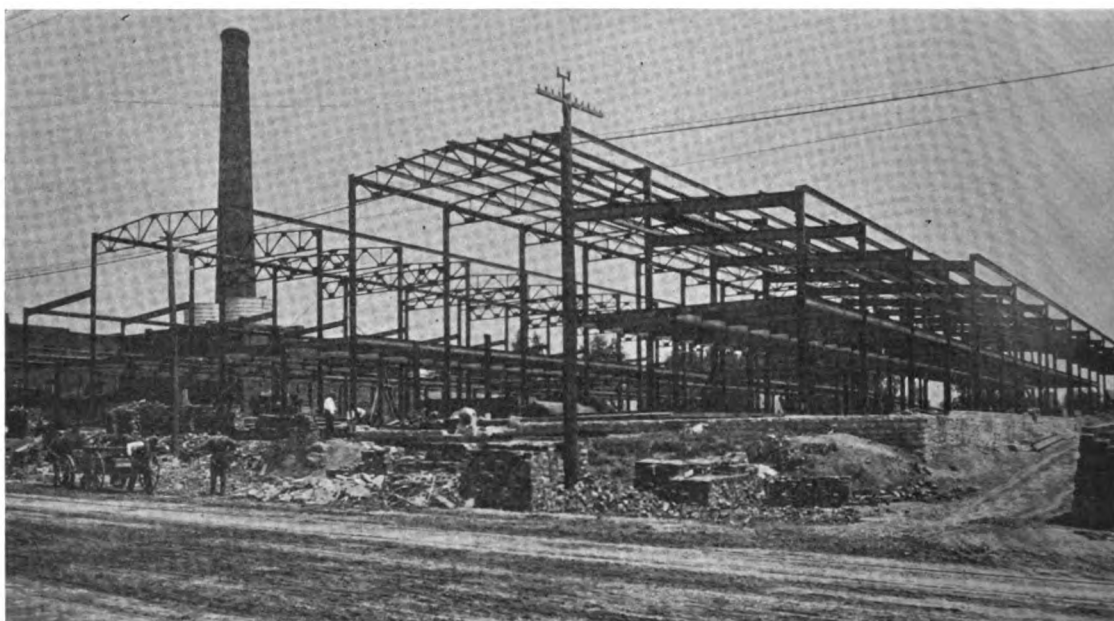
When the plant of the Haynes automobile Company was utterly destroyed by fire a few months ago, there were the knowing ones to assert that a new factory would not rise upon the site of the old one. Those in control of

ager C. B. Warren, in a position to turn out cars more advantageously and in larger numbers than at any time in its history.

Wound up with Record Run

George Bowler, of the F. B. Stearns Co., recently completed a 2,400-mile mountain trip through the East, combining business and pleasure. During the three weeks he was away Mr. Bowler visited over twenty different cities, calling on Stearns dealers.

He reached Philadelphia just in time to enter his car in the Quaker City endurance running, and although the car had already



HAYNES MAIN BUILDING ON MAY 23

the destinies of the time-honored Haynes Company knew better, however, and after the difficult task of procuring temporary quarters in which finished cars for the 1911 season had been attended to, they turned their thoughts to preparing plans for the building of permanent headquarters on an enduring and greatly enlarged scale.

The accompanying illustration shows the condition of affairs which existed in Kokomo a couple of weeks ago—on May 23, to be exact. It will give an idea, also, of the permanent character of the buildings now being pushed to completion. It is an absolute certainty that when the Haynes Company begins work on its 1912 model it will be, says General Man-

seen over 1,800 miles, he succeeded in winning second prize.

As an incident of the trip, Bowler made the run from Atlantic City to the Bellevue-Stratford in 1 hour and 40 minutes.

Was Too Fast for Trask

"That 'the race is not always to the swift' was again demonstrated in the big Indianapolis Decoration Day event," says C. H. Martin, who managed the Knox racing team.

"The Giant Knox Six, which made the three fastest laps, was too speedy to win as the time gained in fast going was doubly lost in replacing tires. Over one hour was taken out of the running time for this cause.

"The turns were only banked sufficiently to stand a speed of 75 miles an hour, anything in excess would throw the weight of the machine on the two outer tires, tearing the treads off the best shoes as if they were made of paper. The brick surface of the track, while offering firm traction, was very destructive on rubber and, together with excessive speed, heated them to such an extent that they would smoke when taken off.

"Another point brought out by this race is that commercial troubles are a thing of the past with the high grade motor cars, as the Knox car is not the only one which went through the entire race without using a tool or without raising the bonnet."

Schenck is New Carhartt Manager

It was announced this week that Wm. M. Gage had resigned his position as General Sales Manager of the Carhartt Sales Company, of New York, and that John V. Schenk had been appointed in his place.

To Make Electric in Louisville

The Electric Vehicle Company, of Louisville, Ky., has secured a plant in that city in which it will manufacture electric pleasure and freight cars. The first commercial vehicles made will be light delivery wagons of 1,000 pounds capacity.

Republic Rubber Plant Growing

Additions are being made to the plant of the Republic Rubber Company of Youngstown, O., in the form of a building which will be used exclusively by the Mechanical Department—for machine shop, pattern works, etc., and will be of fire-proof construction—70x130 feet, equal to two stories. The large five-story addition to the "Staggard" Tread Tire Department, now under construction, is about completed.

Another Abbott-Detroit Agent in N. Y.

Contracts have just been signed whereby the Co-operative Motor Car Co., of Buffalo, N. Y., of which W. A. Lutz is manager, will be supplied with 150 Abbott-Detroit cars for Buffalo and Western New York for the season of 1912, with the option of as many more. The Buffalo company in addition to the Abbott-Detroit will handle the Pope-Hartford and Stevens-Duryea.

ADVERTISING is not for dreamers, but for schemers—not for plodders, but for plotters. A still pool soon becomes a stagnant pool. The "satisfied-with-what-I've-got-spirit" fills the commercial grave-yards.



E-M-F. TESTERS READY FOR WORK

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Conflicting Estimates of Horsepower

"Horsepower measures the rate at which work is done. One horsepower is equivalent to raising 33,000 pounds one foot a minute or 550 pounds a second. In measuring the work of a horse the estimates of the most celebrated engineers differ widely," said Charles Splitdorf, of the famous Splitdorf Laboratories.

"Boulton and Watt, basing their calculations upon the work of a London dray horse working eight hours a day, estimated it at 33,000 foot pounds a minute. D'Aubisson, taking the work done by horses at Froiburg, estimated the work at 16,440 pounds, working eight hours a day. Under similar circumstances Desagulier's estimate was 44,000, Smeaton's 22,000 and Tredgold's 27,500 foot pounds.

"Horsepower is called nominal; indicated or actual. Nominal is used by manufacturers of steam engines to express the capacity of an engine or boilers. Indicated shows the full capacity of the cylinder in operation without deduction for friction, and actual marks its power as developed in operation without deduction for the friction of the engine's operation. The original estimate of Watt is still counted a horsepower."

Electric Vehicle Run Postponed

The proposed electric vehicle run in the vicinity of New York, under the auspices of the Electric Automobile Dealers' Association, which was originally scheduled for June 6, has been postponed because of the inability of a number of owners to participate in the affair on that date. While nothing definite has been decided, it is likely that the run will be held on June 14. The interest shown in the affairs concerning the contest augurs well for its success and the entry list promises to be a large one. Thus far several cars of each of the following well-known makes have been entered: Detroit Electric, Baker Electric and Rauch and Lang Electric.

The route has been selected, a pathfinding car, in charge of Secretary C. Y. Kenworthy and J. H. Hertner, having gone over the course last week. It leads over Long Island roads and passes through the following towns: Flushing, Jamaica, Queens, Bellerose, Floral Park, Hyde Park, Garden City, Hempstead, Rockville Center, Lynbrook, Valley Stream and Springfield. New York City will be the starting and finishing point.



**A PLASTIC CEMENT
FOR REPAIRING CUTS
AND PUNCTURES IN
ENVELOPES AND TUBES.
PUT UP IN SEALED TOP
CANS AT FORTY CENTS
EACH**

*Michelin
Milltown
New Jersey*

SPLITDORF Wins Again

At the Oakland, Cal. Motordrome, May 30

50 Miles, Free-for-all, won by the SPLITDORF equipped National; Maxwell second and Velie third, both also SPLITDORF equipped. Time, 52.06.

15 Miles, cars of 300 cu. in., won by the SPLITDORF equipped Maxwell, with a SPLITDORF equipped Ford second. Time, 13.37.

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At Denver, May 30, the 200-mile road race won by the SPLITDORF equipped National. Time, 3.30.30.

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According to H. Clifford Brokaw, head of the West Side Y. M. C. A. Automobile School, a tear or cut in an automobile tire will cause infection and serious deterioration to a tire just as a human being will suffer infection from a laceration. "Antiseptic surgery, as practiced today by the medical profession, has a lesson for every automobile owner" says Brokaw.

"If the tire of an automobile is cut or broken it should be treated at once in the same manner that a physician treats a bodily injury. In the case of a broken or cut tire, moisture, oil and other foreign substances get into the fabric of the shoe and cause decay. Such injuries should be attended to at once by washing out the cut with gasoline and filling it with cement. Follow this method with even the smallest cut and your tires will give their full length of service. Many people complain that their tire bills are excessive, but in most cases of this character that I have investigated I have found that neglect was the cause of the trouble.

A New Solder in Paste Form

Do you remember, when you were a youngster at home, watching the plumber, tinsmith or electrician heating his soldering iron in a portable furnace and mending the leaks in the pipes, wires or kitchen utensils by melting his solder through contact with the hot iron and soldering stick? And do you recall how he poured on a little acid to form a flux and kept on heating his iron and repeating the process?

You probably observed him with a great deal of interest and curiosity and thought his work picturesque and mysterious; but it was mighty troublesome and a precious waste of time, labor and materials to the workman. At that time such laborious methods were necessary in order to solder efficiently.

Recently a new kind of solder has been placed on the market. It is in the form of a paste in a collapsible tube, put up just like the familiar tube of tooth paste, and all that is necessary for its effective use is to scrape off the surface of the part a little with a knife, squeeze some of the soldering paste on and apply a match, candle or torch. When the paste becomes hot it fuses and solders in the same manner as the old style soldering stick.

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Baltimore's Park Regulations

Baltimore officials are very particular about the appearance of their public parks and of the type of vehicles that use the roads in them, as is shown in the following park rules and regulations, governing the use of vehicles, including automobiles:

23.—All vehicles, other than pleasure vehicles, are prohibited within the parks unless employed in the business of the parks. Also all vehicles having any lettering of a business nature upon them. It is unlawful to carry in any automobile or other vehicle, marketing, goods, wares, merchandise or baggage (except hand-baggage or small inconspicuous parcels or baskets) unless the same be covered up by a lap robe. It is unlawful to tow a motor vehicle through any park. Penalty for any of the above, fine of from five to fifty dollars.

25.—No automobile or motor cycle shall enter or be driven in the parks without a muffler, or with the muffler open. Penalty of five dollars for the first offense, and twenty-five dollars for each succeeding offense.

Baltimore Club's Special Offer

The Automobile Club of Maryland has started a unique crusade against the flagrant disregard of the law that some Baltimore people are wont to have. The club now has a special uniformed officer on a motorcycle, whose duties are to patrol the streets of the city of Baltimore and roads in the suburbs for the purpose of reporting to the club any violations of the motor vehicle and traffic laws, to the end that the same may be corrected. Members are requested to report to the secretary any section of the city where they noticed habitual violations of the law, either on the part of the automobilists or other individuals. The club will prosecute offenders.

INCORPORATIONS.

New York, N. Y.—Motor Tour Company, with \$100,000 capital. Incorporators: H. D. Kerr, B. M. Day and E. E. Day. To deal in automobiles.

Brooklyn, N. Y.—S. D. Mfg. Co., with \$30,000 capital. Incorporators: J. R. Spangler and G. De Wald. To manufacture and deal in automobiles, motorcycles and accessories.

Lansing, Mich.—Haight Auto Lighter Co., with \$5,000 capital.

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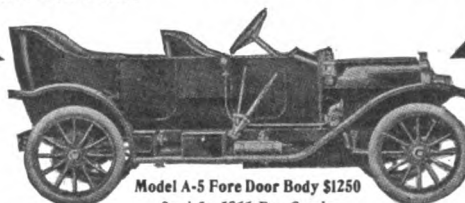
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New York, N. Y.—Hydro-Carbon Gas Co., with \$5,000,000 capital. Incorporators: J. W. Latta, T. Kennedy and H. C. Wade. To manufacture gas for automobile and railroad lighting.

New York, N. Y.—Auto Service Building Co., with \$25,000 capital. Incorporators: M. Tahl, A. Tahl and M. Abramson. To erect and maintain a building to be used for automobile service.

New York, N. Y.—U. S. Auto Horn Co., with \$5,000 capital. Incorporators: Genevieve Macdonald, George Frankenthaler and Leon Raunheim. To deal in automobile accessories.

New York, N. Y.—The Darre Co., with \$5,000 capital. Incorporators: David Kornbluch, Richard B. Darre and John G. Hoffman. To conduct an automobile business.

Indianapolis, Ind.—Rapid Transit Motor Co., with \$150,000 capital. Incorporators: James T. Eaglesfield, Hugh O. Pantzer, Joseph W. Selvage, J. George Mueller, James I. Gardner and R. D. Campbell. To operate passenger automobiles in Indianapolis.

Portland, Me.—Mogul Motor Truck Co., with \$200,000 capital. Incorporators: Clarence E. Eaton and Albert F. Jones. To manufacture and sell automobiles and other vehicles.

Burlington, Ia.—Burlington Garage Co., with \$10,000 capital. Incorporators: C. H. Tiedge, Max Nave, Ed. Rheinschmidt and William Rheinschmidt. To deal in automobiles and operate a garage.

Syracuse, N. Y.—B. W. Snow Co., with \$25,000 capital. Incorporators: J. E. Snow, W. A. Snow and L. S. Chapman. To manufacture and sell automobile parts and conduct a machine shop.

Wilmington, Del.—D. & S. Airless Tire Co., with \$1,000,000 capital. Incorporators: F. M. Shrive, S. A. Robertson and H. N. Davis. To manufacture tires for automobiles and other vehicles.

Terre Haute, Ind.—Henry Mfg. & Grease Cup Co., with \$40,000 capital. Incorporators: J. P. Gilmour, Michael Henry, John Marmor and Charles Fox. To manufacture and deal in automobile parts and accessories.

Automobile Calendar

June 10.—Reliability Contest for Electric Cars, under the auspices of the Quaker City Motor Club.

June 10.—Race Meet at Philadelphia, under the auspices of the Philadelphia Auto Trade Association.

June 10 and 11.—Race Meet at the Hawthorne track in Chicago, under the management of Homer George.

June 13 and 14.—Track Race Meet at the Wisconsin State Fair Grounds track in Milwaukee, part of the Grand Circuit.

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

- June 14.—Annual Orphan's Day Outing in Buffalo, N. Y., under the management of the Automobile Club of Buffalo.
- June 15, 16.—Fourth Annual Chicago Automobile Club-Chicago Athletic Club Inter-club Motor-ing Match. Route to Janesville, Wis., and re-tur-n to Chicago.
- June 15, 16 and 17.—Midsummer Meeting of the So-ciety of Automobile Engineers in Dayton, Ohio.
- June 16.—Street Motor Car Carnival, under the aus-pices of the Washington (D. C.) Automobile Club.
- June 17.—Hill Climb at Portland, Me., under the auspices of the Maine Automobile Association.
- June 17.—Annual Hill Climb at Ossining, N. Y., under the auspices of the Upper Westchester Automobile Club.
- June 17.—Start of the New York to Bermuda Motor Boat Race, under the auspices of the Motor Boat Club of America and the Royal Bermuda Yacht Club. Start to be made from Gravesend Bay.
- June 18.—Light Car Race, to be run over the Bou-logne-sur-Mer course in France.
- June 18.—Start of the Paris Journal 1,000-mile aero-plane race through Paris, Liege, Utrecht, Brus-sels and London.
- June 19.—Reliability Contest of the Hyperion Field & Motor Club at Denver, Col.
- June 20.—Reliability Run if the Automobile Club of St. Louis.
- June 20, 21, 22 and 23.—Annual Convention of the National Gas and Gasolene Engine Trades As-sociation in the Hotel Ponchartrain, Detroit, Mich.
- June 20-22.—Aviation Meet at Buffalo, N. Y.
- June 21.—Start of the 1911 Glidden, or national tour, of the American Automobile Association from Washington, D. C., to end at Ottawa, Canada, on June 29. Distance, approximately, 1,090 miles.
- June 24.—National Grand Circuit Meeting at Brigh-ton Beach, New York.
- June 25.—Light car race fo the Coupe des Voitur-ettes over the Boulogne-Sur-Mer course, Franc.
- July 1.—Third Annual New York-Albany Motor Boat Race, under the auspices of the New York Motor Boat Club.
- July 1.—National Grand Circuit Road Races over the Riverhead (L. I.) course.
- July 1, 2 and 3.—The Catskill Reliability Road and Hill Climbing Contest. Start to be made in New York. Under the management of the Motor Contest Association.
- July 4.—Track Race Meet at Detroit, under the aus-pices of the Wolverine Automobile Club?
- July 4.—Track Race Meet at the Denver Speedway, under the auspices of the Denver Motor Club.
- July 4.—Road Race at Bakerfield, Cal., under the auspices of the Kern County Merchants As-sociation.
- July 4.—National Grand Circuit Hill-climbing Con-tests at Port Jefferson, Long Island.

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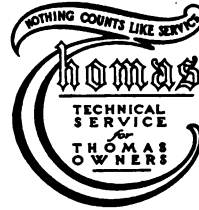
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Automobile Troubles and How to Remedy Them

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CONTENTS

Back or too early firing (preignition)—Blow-back of gas into carburetor—Popping noises—Buzz in coil (other than contact breaker buzz)—Clatter and grind in gear box—Compression, faulty—Compression, none—Engine runs after current switched off—Explosions—Irregular or uncertain running—Metallic or puffing noises—Misfires—Resistance slight when operating starting handle—Smells—Start, failure to—Steering erratic—Stoppage of engine—Water escapes—Air lock—Batteries—Bearings—Bent axle—Blowback—Brakes—Carburation—Chain broken—Change speed gear—Clutch—Coil—Connecting rod or crank shaft broken—Contact breaker—High Tension Magneto—Contact Maker—Knock in bearings generally or Transmission system—Leaks: Loss of water, gasoline, oil, or air—Loss of power causing sluggish running—Cylinders—Gear—Governor—Hunting—Ignition—Lubrication—Misfires—Muffler troubles—Noise—Nuts and bolts—Overheating—Pipes burst out or fractured—Pinion loose—Pinion broken—Piston troubles—Popping in carburetor—Pressure leaking in case of pressure feed—Premature or preignition—Short circuits—Spark Plug—Steam bound or air lock—Steering—Supply pipe choked—Timing—Tires—Valves—Valve springs—Water circulation—Wheels.

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- July 4, 5 and 6.—Annual Races of the Mississippi Valley Power Boat Association at Dubuque, Ia.
- July 4 to 19.—Prince Henry Tour through Germany and Great Britain.
- July 5-22.—Fourth Canadian Competition for Agricultural Motors at Winnipeg, Can.
- July 7.—Track Race Meet at Taylor, Tex., under the auspices of the Taylor Automobile Club.
- July 8 or 15.—Track Race Meet at the Belmont Driving Park in Philadelphia, under the auspices of the Norristown Automobile Club.
- July 9.—The French Grand Prix Race over the famous Sarthe Course, under the auspices of the Automobile Club of Sarthe and Oise and the patronage of the Automobile Club of France.
- July 10.—Start of the Elimination National Balloon Race from Kansas City, Mo.
- July 11.—National Grand Circuit Hill-climbing Contests at Worcester, Mass.
- July 12.—Start of the Indiana Automobile Manufacturers' Four-State Indiana Car Tour from Indianapolis.
- July 14.—Reliability Contest for Commercial Vehicles, under the auspices of the Quaker City Motor Club.
- July 17, 18 and 19.—Reliability Run, under the auspices of the Cleveland News.
- July 14.—Start of the Marblehead Motor Boat Race from Huntington Harbor, L. I.
- July 17-22.—Second Annual Reliability Tour of the Wisconsin State Automobile Association, starting from Milwaukee.
- July 22.—Start of the Motor Boat Race for the Reciprocity Cup, from Gravesend to Halifax, N. S.
- July 22-August 5.—Thousand-mile Aeroplane Contest around Great Britain, under the auspices of the Royal Aero Club of Great Britain, for a \$50,000 prize.
- July 29.—National Grand Circuit Meeting in Philadelphia, Pa., at Belmont Park.
- August 1.—Commercial Vehicle Reliability Run, under the management of the Chicago Evening American.
- August 8-9.—Western Power Boat Regatta at Peoria, Ill.
- August 8, 9 and 10.—1911 Regatta of the Great Lakes Power Boat League at Detroit, Mich.
- August 12.—National Grand Circuit Meeting in Detroit, Mich.
- August 12.—Reliability Run, under the auspices of the Quaker City Motor Club.
- August 16, 17 and 18.—Elimination Races to select American representatives for the Harmsworth trophy race for motor boats, Huntington Harbor, L. I.
- August 24, 25 and 26.—Races for the possession of the Harmsworth (motor boat) Trophy, to be held in Huntington Harbor, L. I.
- August 25-26.—National Stock Chassis Road Races under the management of the Chicago Motor Club over a course near Elgin, Ill.
- August 28 to September 4.—Second Annual Harvard-Boston Aero Meet at the Squantum, near Boston, Mass.

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- September 1.—Commercial Vehicle Reliability Run, under the auspices of the Chicago Motor Club.
- September 1.—Reliability Contest in Oklahoma, under the auspices of the Daily Oklahoman.
- September 4.—Track Race Meet at the Denver Speedway, under the management of the Denver Motor Club.
- September 4.—National Grand Circuit Meeting at the Indianapolis (Ind.) Motor Speedway.
- September 4.—Start of the Motor Boat Carnival at Huntington Harbor, L. I.
- September 4 to 9.—Annual Motor Boat Carnival, under the joint auspices of the National Association of Engine & Boat Manufacturers and the Motor Boat Club of America at Huntington Bay, L. I.
- September 7, 8.—Track Race Meet at Philadelphia, under the auspices of the Philadelphia Automobile Trade Association.
- September 9.—National Grand Circuit Meeting at the St. Paul (Minn.) State Fair.
- September 12, 13.—Race Meet of the Michigan State Automobile Association at the Grand Rapids track.
- September 15.—Track Race Meet at the Appalachian Exposition at Knoxville, Tenn., under the auspices of the exposition management.
- September 16.—National Grand Circuit Meeting at the Syracuse (N. Y.) State Fair.
- September 18, 19 and 20.—Commercial Vehicle Contest, under the auspices of the Chicago Motor Club.
- September 23.—National Grand Circuit Road Race at Lowell, Mass.
- October 3, 7.—Annual Race Meet at Danbury, Conn., under the auspices of the Danbury Agricultural Society.
- October 7.—National Grand Circuit Road Race in Fairmount Park, Philadelphia, Pa.
- October 9-13.—One thousand mile reliability run of the Chicago Motor Club.
- October 16, 17 and 18.—Reliability Run, under the auspices of the Motor Club of Harrisburg, Pa.
- October 20 and 21.—National Grand Circuit Meeting at the Atlanta (Ga.) Speedway.
- November 1.—Race Meet, under the auspices of the Waco, Tex., Automobile Club, at Waco, Tex.
- November 2, 3, 4.—Reliability Run under the auspices of the Quaker City Motor Club.
- November 3.—Light Car Race at Savannah, Ga. Part of National Racing Circuit.
- November 7, 10.—Road Race, from Los Angeles, Cal., to Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.
- November 9, 10 and 11.—Track Race Meet, under the auspices of the San Antonio Automobile Club at San Antonio.
- November 10.—Track Race Meet at Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.
- November 30, December 2, 3, 25, 26.—Race Meets on the mile saucer board track at Los Angeles, Cal.

Automobile Driving Self Taught

BY

THOMAS H. RUSSELL, M.E., LL.B.

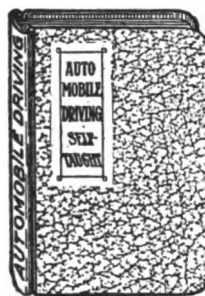
AUTHOR OF

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"Automobile Motors and Mechanism"

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CONTENTS



Automobile Driving—General Instructions—Starting the engine—Advancing the spark—How to change speeds—Use of the clutch—The control levers—Principles of gear changing—The engine as a factor—Use of brakes—Causes of irregular firing—To avoid sideslips—The tire bill—Gear missing in speed changes—Engine thumping—Driving on the brake—How to get the best work out of a motor—Skidding or sideslip.

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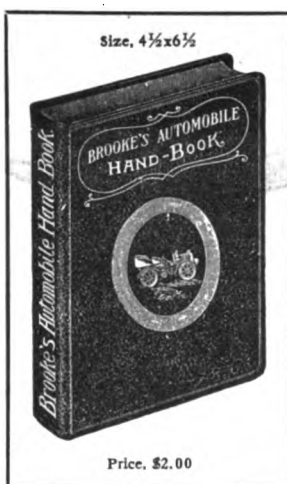
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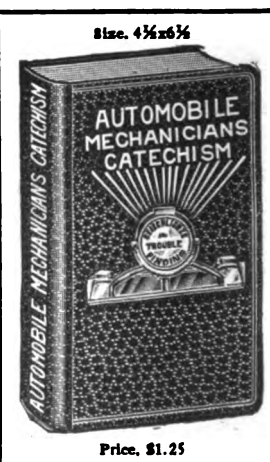
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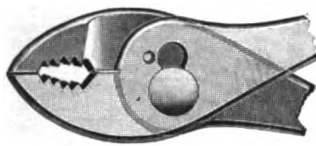
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Adapted for use in the technical school, the workshop or on the road. The questions asked and the answers given in this catechism will be found to be an indispensable guide to quicker and better work by the automobile student, no matter whether that work be in the school, the shop, on the road, or before the examining board of engineers.

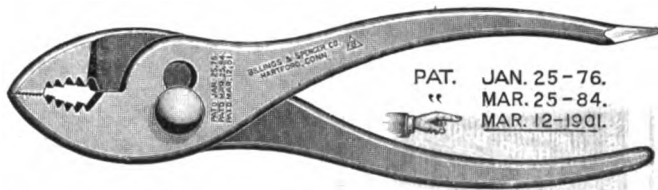
The questions and answers have been carefully compiled, and they are presented in a clear and concise form, covering every detail of automobile work, a reliable instructor and assistant to the student and mechanic, while to the chauffeur the book is a most valuable guide and helper, giving correct method for handling the machine under all conditions of service and what to do in case of breakdowns. The demand for skilled mechanics in the field of automobile work is constantly increasing, and especially so regarding the operation of the machines. Quite a number of the states and larger cities already having rigid laws requiring chauffeurs to undergo a strict examination before a board of mechanical experts before being licensed as automobile (chauffeurs) drivers.

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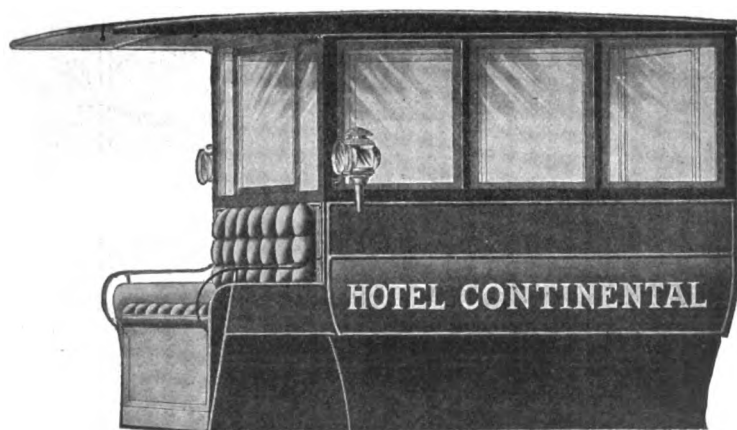
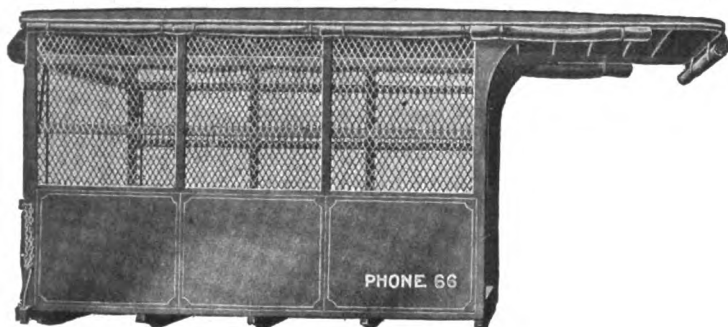
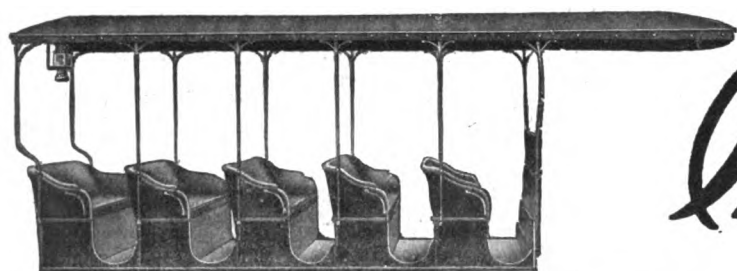
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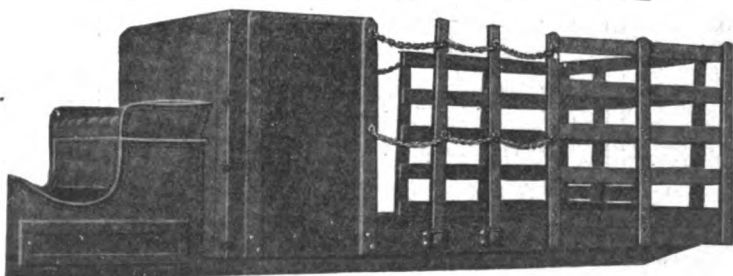
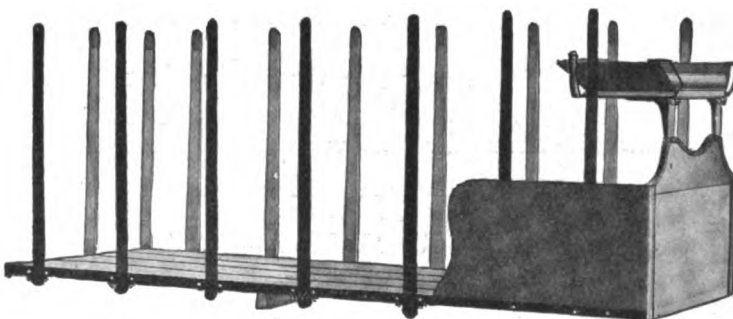
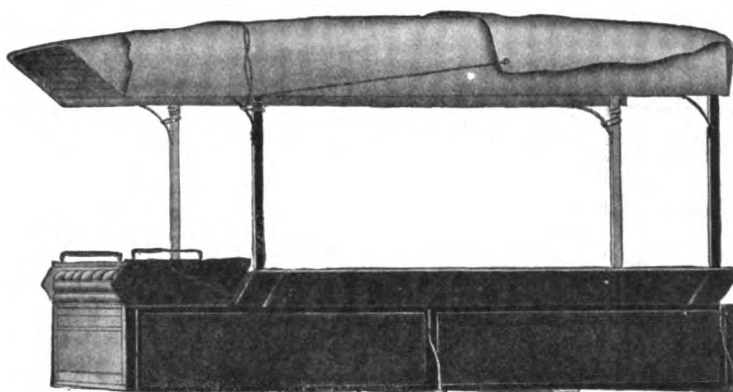
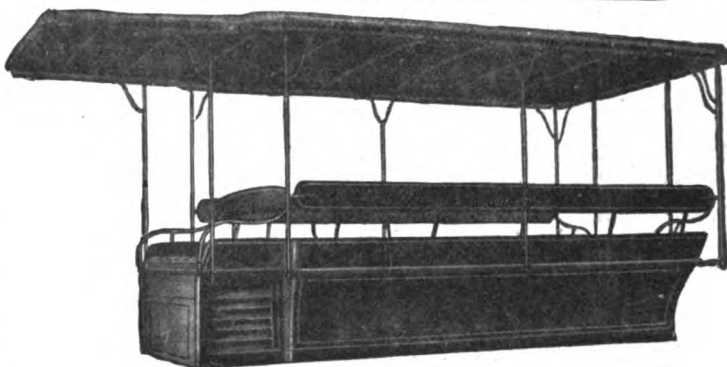
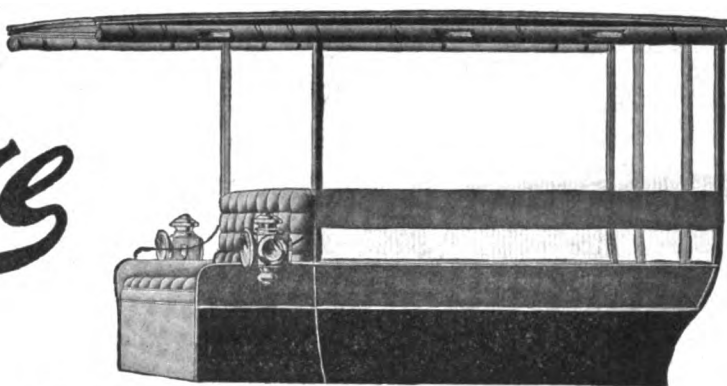
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NEW YORK, JUNE 17, 1911

No. 11

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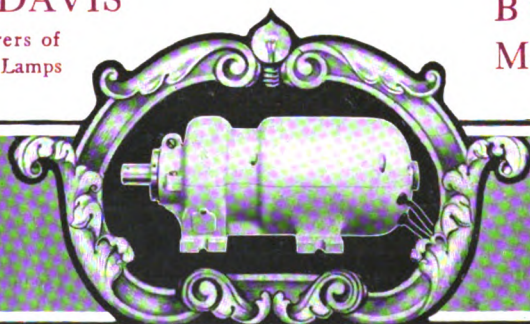
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Truffault-Hartford Shock-Absorber Patent Again Adjudicated

After nearly three years of litigation the United States Circuit Court has again sustained the Truffault patent covering rotary friction shock absorbers broadly, and has directed that a perpetual injunction issue against Harold J. Moore and Ruth H. Moore (doing business under the name of John Moore & Co.), the New York agents for the Brush car, enjoining them from selling this car with the shock absorber with which it has been equipped.

In the summer of 1910 the case was brought on for final hearing before his Honor Judge Hand, and after a careful consideration of the evidence Judge Hand held the patent to be valid and infringed. Thereafter, however, defendants obtained permission to take and submit additional proofs as to certain matters which they alleged would render the patent invalid, and the decision just rendered, after a careful consideration of these proofs, again decides in favor of the patent and directs that an injunction be issued and an accounting rendered.

We have always believed that the Truffault-Hartford patent was a pioneer one and that the numerous imitations subsequently put upon the market were infringements. The decision against the Brush car fully confirms this opinion and we wish to notify the trade that we shall in future prosecute all infringers, whether manufacturers, dealers or users and hold them responsible for any damages sustained by us by reason of their encroachment upon our rights.

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NEW YORK, JUNE 17, 1911.

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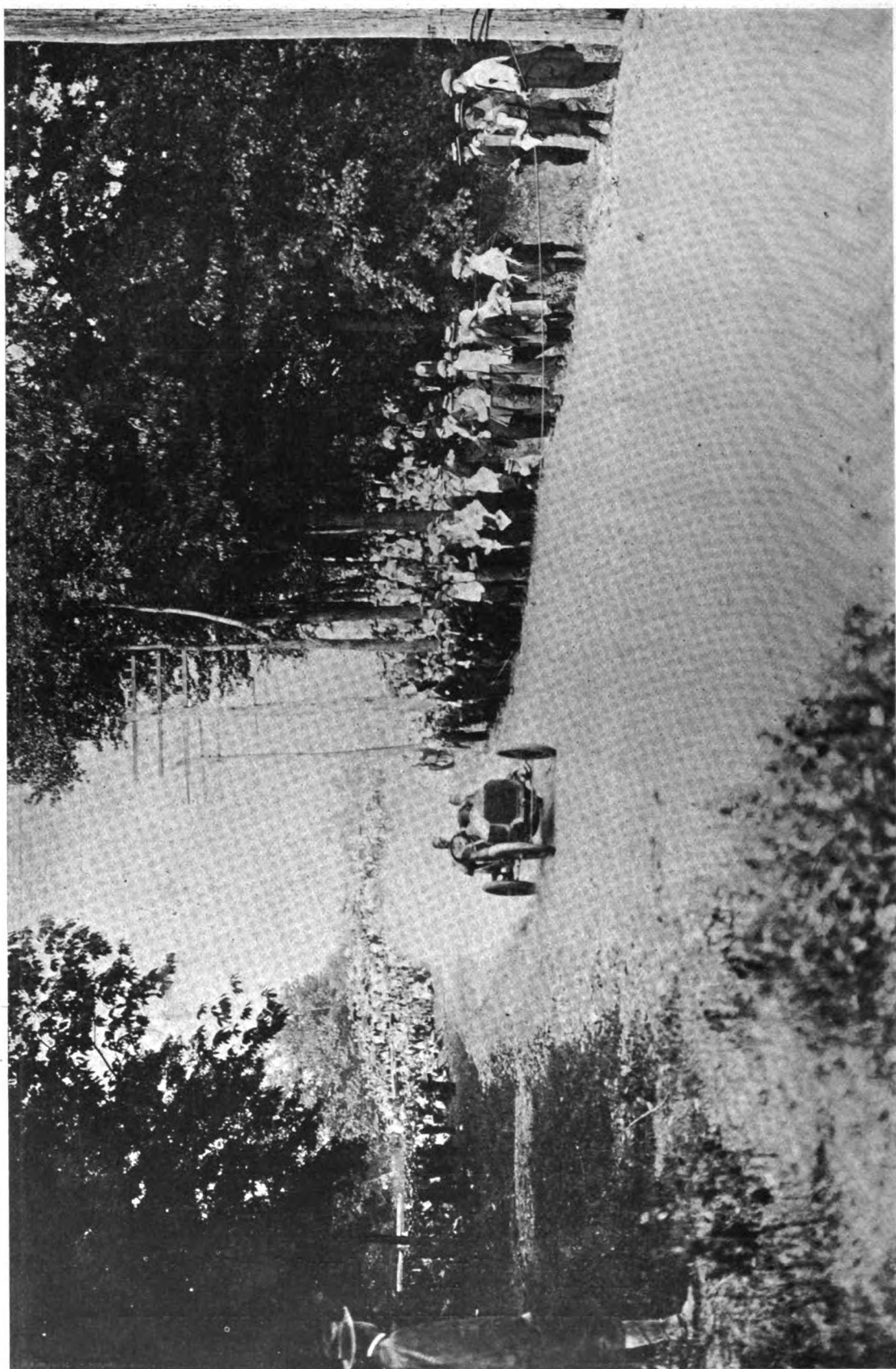
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THE CLIMBING CONTEST ON SHINGLE HILL, CONN.—ROBINSON DRIVING HIS S. P. O. TO VICTORY IN THE SIXTH EVENT

Automobile Topics

Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Vol. XXII.

NEW YORK, JUNE 17, 1911

No. 11

TOPICS

THAT USUALLY level-headed official, State Motor Vehicle Commissioner J. B. R. Smith, has conceived the idea that the motorists of New Jersey, as a body, are not opposed to the position taken by him in regard to the present controversy between New Jersey and other State over the matter of an interchange of "courtesies" or "privileges." This remarkable view is due to one of two things; either the Commissioner has been holding communion with himself and a few motorists who are politicians first and motorists afterwards, or he has permitted his loyalty to the legislative interests which control the State to blind him to what is going on right under his nose. If Commissioner Smith would take the trouble to ascertain the views of any considerable number of New Jersey motorists he would easily discover that nine out of ten of them are disgusted with New Jersey's position in this matter and delighted that the State officials have gotten themselves into such a mess. How such an intelligent man as Commissioner Smith could go astray in this matter it is difficult to understand. The feeling of opposition referred to is so notorious, so strong and outspoken, that one could scarcely be ignorant of it if he wished to be.

THE SITUATION is a very simple one. Some forty States have arrived at the conclusion that it is unpatriotic as well as uncivilized to set up a barrier which motorists of other States must not cross, and they have altered their legislative enactments to the extent of recognizing license numbers of other States who have the same feeling and convictions. Therefore, in practically every State of the Union except New Jersey, a motorist can go anywhere by merely showing that he has complied with the laws of his own commonwealth requiring him to register his car and carry a proper license number; or, in a few States, by taking out, without cost, a temporary license. Naturally, therefore, these States ask that New Jersey shall do likewise with respect to visiting motorists. If New Jersey will do this they will freely extend to New Jersey motorists similar privileges. New Jersey, however, will have none of this. She insists that non-resident motorists shall take out an eight days' license, paying a small fee therefor, and give a power of attorney which makes it possible for them to be subjected to great annoyance. With such a disparity of laws one would think that the simplest thing would be for New Jersey to change her statutes to coincide with those of the other forty States. Instead of this, she asks the

other forty States to change their laws to conform to hers!

THE PITY OF IT ALL is that New Jersey is the greatest sufferer by this widespread war. The commonwealth is one great vacation ground. Not only her world-famous seaside resorts, but the region of mountains and lakes and rivers in the northern part of the State as well, beckon alluringly to the seeker after health, comfort or pleasure. To these beauty spots a multitude of roads lead—highways that are hard, smooth and splendidly kept. They make New Jersey the motorists' paradise. The State gets tens of thousands of people, tired of city life, who come to its suburbs to enjoy themselves, and they live in the State the year round and spend their money liberally. Then there are the pleasure-seekers, the transients who come to New Jersey in the spring, the summer, or the fall. They, too, find that life is worth living in New Jersey, especially if they are motorists. There are no speed-traps, little or no attempt to enforce unenforcible speed laws, or to harrass or annoy peaceable, law-abiding people. The splendid roads of the State lead everywhere. One can drive over them for hours, for days, for weeks, and never strike a bad one. But all this is jeopardized by the unwise, unpatriotic and boorish policy which the State adopts toward non-resident motorists. Because of it the hands of the people of all other States are against Jersey-men—because they feel that Jersey "has it in" for them. The Jersey motorist who drives into other States is ashamed to have it known that he is from New Jersey. He will be silent, evade, or even lie outright if cornered; and why? Because if he lets the truth escape him he is sure to get it in the solar plexus. And Commissioner Smith and other presumably sensible Jersey-men cannot see the folly, the lack of necessity, the wastefulness of it all.

AS A RESULT of a fatal accident at a Chicago horse track used for automobile racing—the second fatality within a few weeks, by the way—a club of that city has "decreed" that the course shall not be used for similar purposes in future. This has a reminiscent sound. Horse tracks were condemned years ago, when horrible accidents occurred at Buffalo, Detroit and other places, but ever and again the "sport" bobs up and more people are hurled

into eternity. Automobile racing is bad enough at the best, and it should be surrounded by every possible safeguard.

MASSACHUSETTS will soon join New Jersey by the enactment of a universal light law. Other States should wake up.

HALF A DOZEN YEARS ago or more the cry went up that the increasing demand for gasoline would speedily cause a shortage in that commodity. Since then the consumption of gasoline has doubled or quadrupled, and still the oil companies manage somehow to produce enough to go around. The explanation is very simple: the demand for all petroleum products has increased greatly also, and this makes it possible to produce much more gasoline than formerly. Furthermore, the grade of gasoline now being used is considerably lower than it was a few years ago; yet the carburetors of today mix it and deliver it to the engine just as readily and acceptably as they did the more volatile fluid of the early days. In years to come, when the demand is still greater than at present, further changes in carburetors will undoubtedly be made to accommodate them to the mixing of denser gasoline.

ALTHOUGH TWO FACTIONS are disputing over highway work in New York State, there is a unanimity of opinion as to the necessity for avoiding delay in both new construction and maintenance work. Despite this, however, the delay which both parties profess to abhor is taking place. And the worst of it is that there appears to be little prospect of an acceleration until the present political dispute is entirely settled.

THE DISCOVERY has been made by West Brandywine Grange, Patrons of Husbandry, that there is sad need of legislation designed to protect cattle on the public highways from motor vehicles. These Delaware farmers propose to secure legislation that will afford the desired protection to their cattle. One would think that the matter would settle itself quite readily. Stray cattle have no business on the highway, and cattle properly attended are pretty sure to be given a wide berth by drivers of automobiles.

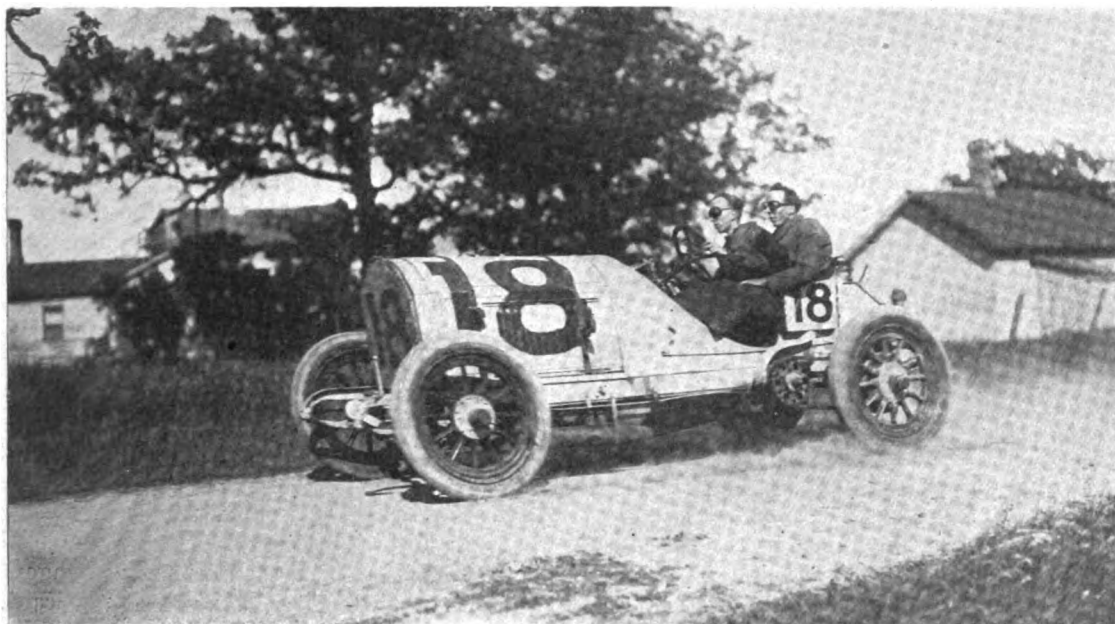
Hearne and Kulick Star at Algonquin

Eddie Hearne, a native son, captured the chief event in the sixth annual hill climbing contests of the Chicago Motor Club at Algonquin on June 8 when he piloted his Benz car up Phillips hill in the free-for-all event in 30 4-5 seconds. This with the record breaking time he made for the ascent of the new Algonquin hill in the morning made his the best combined time of the day, 47 2-5 seconds. For this performance he was awarded the Algonquin Cup. Hearne was not alone in the field of record breaking, for Frank Kulick at the wheel of a Ford brought the day's sport to a fitting close by establishing a new mark

was estimated that fully 5,000 persons were gathered at the starting and finishing points and along the sides of the hills while the contests were run.

The weather was ideal for the sport and both hills were in the best of condition. Not a single accident to contesting cars occurred during the entire program, though the spectators were given a bad scare during one event when the Case car driven by Joe Jaggersburger skidded off the course and headed for the crowd at the side of the road.

By clever manipulation of the steering wheel Jaggersburger kept his car upon the



EDDIE HEARNE, THE FREE-FOR-ALL WINNER WITH HIS BENZ

or 28 1-5 seconds for the half-mile climb up Phillips hill. Two years ago Len Zengle in a Chadwick made the same grade in 28 seconds flat, but since then the hill has been lengthened by sixteen feet.

As in former years the day's sport was divided into two periods, in the morning the contests being held on the recently specially constructed Algonquin hill and in the afternoon on the Phillips incline that has been used in the past. The contests attracted considerable attention and a number of motorists journeyed from Chicago and nearby places to witness the cars speed up the inclines. It

road and continued the climb, amid a tremendous shout of applause from the spectators. Two cars driven by spectators collided before the start of the climb and a woman who occupied a seat in one of them suffered a dislocated right shoulder.

During the morning the contests were held on the Algonquin hill, specially built by the citizens of Algonquin who were anxious to have the annual climb remain in their town. Hearne established a record of 16 3-5 seconds for the climb. In the first event, Class A, stock, division 1A, cars selling for \$800 and under, there were three Ford cars entered,

driven respectively by Lanahan, Gruener and Kulick. In the morning climb these cars finished in the order named, while in the afternoon, when Phillips hill was climbed, the positions were reversed, Kulick being first, Gruener second and Lanahan third. The total times, however, had the cars finishing the order first named. Lanahan's total time was 1:20 3-5, his time for the Algonquin climb being 29 1-5 seconds. An Oakland car, driven by Bauer, was the only starter in Division 2A, \$801 to \$1,200 and 3A, \$1,201 to \$1,600. Its total times were 1:11 4-5 and 1:08 2-5 respectively. Cooney, in a Velie was the winner in Division 4A, \$1,601 to \$2,000, having a combined time of 1:00 1-5. The only other starter in this class was a Staver, driven by Monckmeier, which had a total time of 1:09.

J. H. Seek, in his National, had a walkover in Division 5A, \$2,001 to \$3,000. He covered the morning hill in 19 4-5 seconds and the Phillips incline in 35 seconds flat, a total time of 54 4-5 seconds. In Division 1B, of the Class B stock, 161 cu. in. piston displacement and under, two Empire cars competed, the winning one being that driven by Maddock, which had a combined time of 1:13 4-5. Anderson, the other driver, made the best time on Algonquin, but was fully 10 seconds slower on the longer climb. His total was 1:20 4-5.

Mort Roberts and Marcel Basel, both at the wheels of Abbott-Detroit cars, were the contestants in the 2B division, 161 to 230 cu. in. piston displacement, and the former was the winner, covering both hills in 59 4-5 seconds. Basle negotiated the first hill in 28 seconds, five seconds back of Roberts, but did not take part in the afternoon climb.

The first event of the day to have more than three entrants was the contest for Division 3B cars, those with piston displacements of from 231 to 300 cu. in. Monckmeier at the wheel of a Staver-Chicago proved the winner of this event, covering both hills in 53 1-5 seconds. A. Cole, with Jenkins driving, finished second, with Gelnaw's Falcar third. Another Staver, with Robillard driving was fourth, a Falcar, Morris, fifth, and a Moon, Heinemann, sixth. In the morning climb Robillard was second, Jenkins third and Gelnaw fourth, while the relative positions of the others were the same as in the total time.

In this class the fastest total time of the day up to this point was made by Monckmeier.

Two Velies and a National competed in the Division 4B, 301 to 450 cu. in. piston displacement, and the last named car, driven by Seek, was returned a winner with a total time of 48 3-5 seconds. The Velie driven by Stickney finished second with a total time of 51 3-5 seconds, while the other car of the same make driven by Cooney was third, its total time being 54 seconds flat. Two Falcars, driven respectively by Morris and Gelnaw, were the only entrants in the Division 5B, 451 to 600 cu. in. piston displacement and Morris proved a winner with a total time of 57 3-5 seconds, 1 1-5 seconds better than that of Gelnaw. In the morning climb Morris negotiated Algonquin hill in 21 seconds, 1 1-5 seconds faster than Gelnaw. The latter was the fastest up Phillips hill, but beat his teammate by only two-fifth of a second. His time was 36 1-5 seconds.

There were nine starters in the Class E non-stock, Division 3E contest, for cars with piston displacements under 300 cu. in., but the two Case cars, driven respectively by Strang and Jagersburger, had things pretty much their own way and finished in first and second places respectively in the total time score. In the morning climb Jagersburger made better time than Strang. In the afternoon Lewis made the best showing, but was not fast enough to make up the advantage secured by Jagersburger in the morning and he finished in second place in the total times, one-fifth of a second back of Jagersburger. Monckmeier, in a Staver-Chicago, was third, 3 2-5 seconds back of the winner, while another car of the same make was fourth. Robillard was the driver of this car and his time for the two hills was 56 2-5 seconds. Morris, Falcar; Geinaw, Falcar; Heinemann, Moon; Turgeon, Henry, and Mathews, Ohio, finished in the total time score in the order named. After Seek had had a walkover in the Division 5E contest for cars with piston displacements of under 600 cu. in., the main event of the day was run.

This was the non-stock free-for-all, and six cars came to the line. Cooney moved his Velie car up to the starting point and was the first to be sent up the hill in the morning. He climbed the incline in 20 seconds flat and was then followed by Stickney in a



FRANK KULICK (FORD) CLIMBING STEEP ALGONQUIN HILL

car of the same make, who bettered his team-mate's time by two seconds. Frank Kulick was the next to start and he crossed the tape at the summit of the hill in 20 4-5 seconds. Then the big Benz, with Eddie Hearne at the wheel was sent across the wire and it thundered up the grade at a remarkable pace, negotiating the climb in 16 3-5 seconds. This proved to be the fastest time of the day for Algonquin hill and stands as a record. Seek then piloted his National over the course in 18 1-5 seconds and was followed by Soubiran in a Simplex, who was timed in 17 4-5 seconds.

In the afternoon these six cars again performed on Phillips hill and were started on the climb in the same order as in the morning. Cooney was timed in 33 4-5 seconds, which was three fifths of a second better than the time of his team-mate Stickney. Frank Kulick then established the best time of the day up to that point, when he covered the course in 29 1-5 seconds. Hearne was not able to equal this time and had to be content with second place for the Phillips hill climb, his time being 30 4-5 seconds. Seek and Soubiran each covered the course in 31 2-5 seconds.

On the total time for the Algonquin and

Phillips hills, Hearne secured first place with 47 2-5 seconds, while Soubiran was second, with 49 1-5 seconds. Seek was awarded third place, his time being 49 3-5 seconds, while Stickney was fourth with 51 1-5 seconds; Kulick, fifth, 53 1-5 seconds and Cooney sixth, 53 4-5 seconds.

The last event on the program was for cars contesting in Class C, which was divided into three classes, according to piston displacement. In the first section, for cars with 161 to 230 cu. in. piston displacements, Greuner, in a Ford, was the winner on total time, his being 50 4-5 seconds. Roberts, in an Abbott-Detroit, was second with 53 4-5 seconds and Stickney third in his Velie, in 56 2-5 seconds. Basle, in an Abbott-Detroit and Turgeon, in a Henry, were the other starters in this division. Jagersburger, Strang and Jones, in Case cars, finished in the order named in the division for cars with 231 to 300 cu. in. piston displacements, the winner's total time being 48 3-5 seconds, 3 3-5 seconds better than that for the second drive. Two Falcars, a Moon, Ohio and Cole, were the other cars in this division and they finished, in total time, in the order named.

The last division in this class, cars of 301 to 450 cu. in. piston displacement, had four

entrants. In the morning climb Frank Kulick ran in last place, requiring 20 1-5 seconds to climb Algonquin hill, but in the afternoon, when he was the last driver to be sent up Phillips hill, he covered that course in 28 1-5 seconds, which was a new record for the incline. His time for this climb put him in first place in the division on total time, his being 48 2-5 seconds. Seek was second, with 49 4-5 seconds, Stickney third, 52 2-5 seconds and Cooney fourth, 53 2-5 seconds.

Five cars competed under the Chicago Motor Club's hill-climbing formula. They were run in Class A and separated into four divisions, according to price. The formula compiled by the club was the multiplication of the piston displacement by the time in seconds and then divide the result by the weight of the car. Bauer won first and second place in this event, driving Oakland cars in two of the divisions.

Class A, Stock, Division 1A, \$800 and under.—Won by Ford (Lanahan), 1:20 3-5; second, Ford (Gruener), 1:12; third, Ford (Kulick), 1:28 2-5.

Class A, Stock, Division 2A, \$801 to \$1,200.—Won by Oakland (Bauer), 1:11 4-5.

Class A, Stock, Division 3A, \$1,201 to \$1,600.—Won by Oakland (Bauer), 1:08 2-5.

Class A, Stock, Division 4A, \$1,601 to \$2,000.—Won by Velie (Cooney), 1:00 1-5; second, Staver (Monckmeier), 1:09.

Class A, Stock, Division 5A, \$2,001 to \$3,000.—Won by National (Seek), :54 4-5.

Class B, Stock, Division 1B, 160 inches and under.—Won by Empire (Meddock), 1:12 4-5; second, Empire (Anderson), 1:20 4-5.

Class B, Stock, Division 2B, 161 to 230 inches.—Won by Abbott-Detroit (Mort Roberts), :59 4-5; second, Abbott-Detroit (M. Basle). Did not compete in afternoon climb.

Class B, Stock, Division 3B, 231 to 300 inches.—Won by Staver-Chicago (Monckmeier), :53 1-5; second, Cole (Jenkins), :56 3-5; third, Falcar (Geinaw), :57 2-5; fourth, Staver (Robillard), :57 2-5; fifth, Falcar (Morris), :59 2-5; sixth, Moon (Heinemann), 1:00 3-5.

Class B, Stock, Division 4B, 301 to 450 inches.—Won by National (Seek), :49 3-5; second, Velie (Stickney), :51 3-5; third, Velie (Cooney), :54.

Class B, Stock, Division 5B, 451 to 600 inches.—Won by Falcar (Morris), :57 3-5; second, Falcar (Geinaw), :58 4-5.

Class E, Non-stock, Division 3E, 300 inches and under.—Won by Case (Jagersburger), :50 1-5; second, Case (Strang), :50 2-5; third, Staver-Chicago (Monckmeier), :53 3-5; fourth, Staver-Chicago (Robillard), :56 2-5.

Class E, Non-stock, Division 5E, 600 inches and under.—Won by National (Seek), :48 2-5.

Class D, Non-stock, Free-for-all.—Won by Benz (Hearne), :47 2-4; second, Simplex (Sou-

biran), :49 1-5; third, National (Seek), :49 3-5; fourth, Velie (Stickney), :51 1-5; fifth, Ford (Kulick), :53 1-5; sixth, Velie (Cooney), :53 4-5.

Class C, Non-stock, Division 2C, 161 to 230 inches.—Won by Ford (Gruener), :50 4-5; second, Abbott-Detroit (Roberts), :53 4-5; third, Velie (Stickney), :56 2-5; fourth, Abbott-Detroit (M. Basle), :59 1-5.

Class C, Non-stock, Division 4C, 231 to 300 inches.—Won by Case (Jagersburger), :48 3-5; second, Case (Strang), :52 1-5; third, Case (Jones), :55 3-5; fourth, Falcar (Morris), :58.

Class C, Non-stock, Division 4C, 301 to 450 inches.—Won by Ford (Kulick), :48 2-5; second, National (Seek), :49 4-5; third, Velie (Stickney), :52 2-5; fourth, Velie (Cooney), :53 2-5.

Formula Results

Class A, Stock, Division 2A, \$801 to \$1,200.—Won by Oakland (Bauer), 6:12.

Class A, Stock, Division 3A, \$1,201 to \$1,600.—Won by Oakland (Bauer), 7:51.

Class A, Stock, Division 4A, \$1,601 to \$2,000.—Won by Velie (Cooney), 6:35; second, Staver (Monckmeier), 7:19.

Class A, Stock, Division 5A, \$2,001 to \$3,000.—Won by National (Seek), 6:70.

Brighton Beach Races for July 3 and 4

E. A. Moross completed arrangements with the owners of the Brighton Beach track this week whereby he will be able to promote several race meets at the course by the sea during the remainder of the season. Already Moross has gotten out posters for a two-day meet on July 3 and 4, during which sprint races will be run. On each day eight races are scheduled to be run and the drivers will be those in the Moross troupe. These include Boby Burman, Cyrus Patschke, Teddy Tetzlaff and Knipper. It is said that Joe Matson will not join the Moross forces. A 24-hour race will be held later in the year.

Big Entry List for Manufacturers' Tour

From present indications the Indiana manufacturers' tour, which starts from Indianapolis on July 12 will have a record breaking entry list. The list opened on June 5 and during the first week the following cars were entered: Great Western Motor Car Co., Peru, 5; Lexington Motor Car Co., Connersville, 2; Cole Motor Car Co., Indianapolis, 2 and Auburn Automobile Co., Auburn, 2. The trip which will practically be on a non-competitive basis, will be through Indiana, Illinois, Iowa and Missouri and will last ten days.

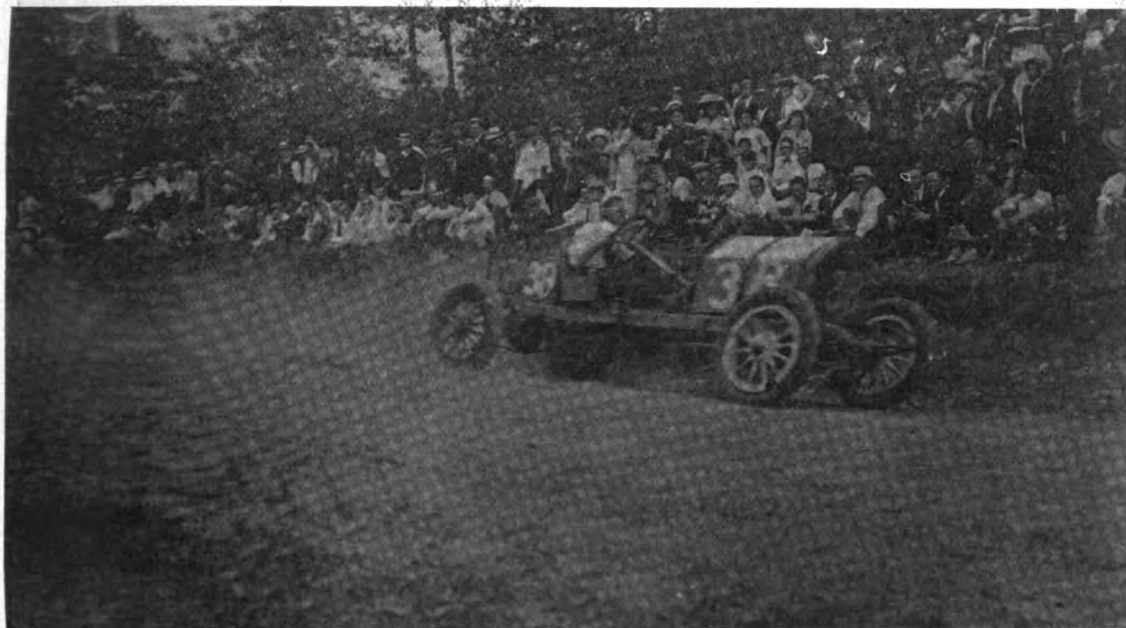
Record Breaking on Shingle Hill

A crowd of more than 15,000 persons saw David L. Bruce-Brown, the winner of the 1910 Grand Prize race at Savannah and third man to cross the line in the 500-mile race on Decoration Day, win the main event at the annual hill climbing contest on Shingle Hill in West Haven, Conn., on Saturday, June 10, in record breaking time. Bruce-Brown broke a record but he did not add one to his collection for he only bettered the previous mark he held for the hill. With a 200 hp. Fiat, owned by Edward W. C. Arnold, of New York, Bruce-Brown negotiated the nine-tenths mile course in 45 1-5 seconds, which was exactly six seconds better than the time he made with a Benz in 1909. In the free-for-all Fred Belcher at the wheel of a Knox made the second best time of 51 3-5 seconds, while Joe Matson, driving another Fiat, was third with 53 4-5 seconds to his credit.

The contests, which this year were held under the joint auspices of the Yale and New Haven Automobile Clubs, were the most successful ever run in New England and were managed perfectly in every way. George H. Robertson, the former racing driver, and winner of the 1910 climb at the same hill, acted as referee and the events were run off with smoothness and despatch.

From early morning the spectators began to gather at the course or in the nearby city and the place took on an holiday appearance. The crowd came in every type of vehicle, from the antiquated one-horse shay which appeared to have been in service over the dirt roads of Connecticut for years and years, to the latest creation of the automobile manufacturers' art. The crowd did not entirely represent Connecticut people for quite a few motorists from New York and towns from Massachusetts and Vermont journeyed to the scene of the contests to see the cars speed up the incline.

Although there was a large crowd gathered at the course, there was absolutely no difficulty experienced in keeping it in control. The policing of the course was very efficiently superintended by a group of Yale students and a squad of the National Guard. Ropes were stretched along both sides of the roads and the crowd was ordered to stay back of them. At the one dangerous turn, of the "S" type, near the summit of the 30 per cent. grade, the spectators were required to stay back from the road about fifteen yards or so to allow for accidents. Although several of the cars took this turn, which was considered a very dangerous one and therefore popular with the crowd, skidding at a great rate, none of them



CALEB BRAGG WINNING EVENT NO. 8 IN A NATIONAL

left the road. In fact the promoters themselves were a trifle surprised that a mishap did not occur here.

There were quite a representative gathering of drivers for the climb, among the most prominent being David L. Bruce-Brown, Joe Matson, Fred Belcher, Caleb S. Bragg, Jack Rutherford, Walter Jones and Jack Coffey. There were four events for amateur drivers and although there were not as spectacular as the men who make their living behind the

contests did not start on time. The first three events were for motorcycles and the fastest time made by these was 48.5 seconds by G. A. Wildman on an Excelsior. The first motor car event was in the division for cars with a piston displacement of 161 cu. in. and under and it was won by an Empire car driven by Hotchkiss, with a car of the same make in second place. The latter was piloted by Kaeser. Bishop in a Hupmobile was third. The winner's time was 1 minute 21.52 seconds,



THE BUSY SCENE AT FOOT OF HILL

steering wheel, they produced some interesting sport. The honors of the day were pretty well divided, the winning cars including a Ford, Buick, S. P. O., Marion, National, Knox, Fiat and Simplex. After the regular program had been completed there were several exhibition climbs by motor trucks and the spectators were surprised with the swiftness and ease with which these vehicles negotiated the steep grade. The only accident of the day, a minor one, occurred before the official start of the climb when a truck capsized after running into a ditch. Several passengers were none too carefully unloaded, but no injuries were inflicted.

The first event was scheduled to start at 1 o'clock, but because of some difficulty experienced with the electric timing device the

while that for the second car was 1 minute 22.22 seconds.

Ellsworth Smith was the winner of the second event, for cars with piston displacements from 161 to 230 cu. in. He brought his Ford up the nine-tenths mile hill in 1:13.25, which was 1.30 seconds better than the time for the second car, a Paige-Detroit, driven by Jack Craig. Just 27-100 seconds back of Craig, E. C. Bull finished with his Buick. There was an amateur class for this division, but D. C. Hooker had a walkover and covered the hill in 1:14.05 with his Buick.

Charles R. Robinson added another victory to his score with his S. P. O. in the following event, for cars with piston displacements from 231 to 300 cu. in., when he romped up the hill in 1 minute 8.09 seconds, 5.08 seconds



NO INDUCEMENT TO ENCROACH UPON ROAD HERE

better than the time for the second car, a Correja, driven by G. P. Braubard. The Metallurgique, a Belgian car, made its debut into competition in this country in this event, when driven by Caleb Bragg it finished third in 1 minute 14.35 seconds. There was another walkover in the amateur section of this event. This time it was P. G. Thebud and his Marion that had no competition. He covered the hill in 1:12.59.

The higher powered cars were now on the program to travel up the hill and the crowd became impatient to see more spectacular work on the part of the cars and drivers. The next event was for cars with piston displacements of from 301 to 450 cu. in. When Caleb Bragg, or Cayley, as his Yale friends call him, went up the hill in 54.27 seconds in a National in this event the spectators left loose a great cheer, for Bragg is a former Yale man. The time made by Bragg was the best for the day up to that point. It was sufficient to win first prize in that class. Jack Coffey in a Knox finished second with 56.50 seconds chalked up along side his name, while Walter Jones in an Amplex was third with 58.85 seconds.

Fred Belcher won the applause of the crowd by the sensational manner in which he guided his Knox up the course in the next event, that for cars with piston displacements of from

451 to 600 cu. in., which he won. Belcher, who has had considerable experience in hill climbing contests, came up the first part of the incline with his motor going for all its was worth. Just as he entered the "S" turn, which was near the top of the hill he shut off his power and the big car skidded completely through the curve. When the end of the winding road was reached Belcher again turned on the gasoline and the car shot toward the summit with a roar and in a cloud of dust. Belcher was timed in 52.75 seconds. This was on his second trial. On the first time up his time was announced at 50.57 seconds, but this was not allowed. Joe Matson was second in his Fiat in this event, his time being 55.98 seconds, while George Shoeneck in a Palmer-Singer was third in 59.70.

When announcement was made that the free-for-all event was the next on the program the crowd settled back, most of them in their natural grand stand seats, and prepared to be thrilled. It was late in the afternoon then and their appetites for excitement had been wetted for this event by the previous contests. There were eight cars entered in the free-for-all, and Joe Matson was the first to be sent up the hill. His Fiat was timed in 53.85 seconds. Caleb Bragg was then sent up the incline. A silence fell over the crowd when it

was learned that Bruce-Brown was on the mark and ready to start up the hill. Those near the top of the hill could look down beyond the "S" turn and almost see the starting point and it seemed to them but an instant after they saw the flash of the start when a red blur passed them with a roar like that of an artillery corp in action and headed for the finish tape. Bruce-Brown was going like the wind, the draught having torn loose his number canvas. He had covered the course in 45 1-5 seconds and when this was made known to the crowd it gave a shout that could be heard for miles around. The day's sport came to an end about five o'clock.

The summaries:

Event No. 1.—Motorcycles, 30-50 cu. in. piston displacement—Won by Frank Hart (Indian), 1:02.17; second, H. H. Logan (Merkel), 1:02.22; third, P. Cox (Indian), 1:06.03.

Event No. 2.—Motorcycles, up to 55 cu. in. piston displacement—Won by Frank Hart (Indian), 55.63; second, H. H. Logan (Merkel), 1:00.10.

Event No. 3.—Motorcycles, free-for-all, limit 61 cu. in. piston displacement—Won by G. A. Willman (Merkel), 48.21; second, P. Cox (Indian), 50.00; third, Frank Hart (Indian), 50:51.

Event No. 4.—Motor cars, with 161 cu. in. or under piston displacement—Won by Hotchkiss (Empire), 1:21.52; second, Kaeser (Empire), 1:22.22; third, Bishop (Hupmobile), 1:46.62.

Event No. 5.—Cars with 161 to 230 cu. in. piston displacement—Won by Ellsworth Smith (Ford), 1:13.25; second, Jack Craig (Paige-Detroit), 1:14.55; third, E. C. Bull (Buick), 1:14.82.

Event No. 6.—Amateur drivers in cars with 161 to 230 cu. in. piston displacement—Won by D. C. Hooker (Buick), 1:14.05. Walkover.

Event No. 7.—Cars in Class C, 231 to 300 cu. in. piston displacement—Won by C. R. Robinson (S. P. O.), 1:08.09; second, G. P. Brainard (Correja), 1:13.17; third, Caleb S. Bragg (Metalurgique), 1:14.35.

Event No. 8.—Cars in Class C, 301 to 450 cu. in. piston displacement—Won by Caleb Bragg (National), 54:27; second, J. J. Coffey (Knox), 56.50; third, Walter Jones (Amplex), 58.85.

Event No. 9.—Cars in Class C, 451 to 600 cu. in. piston displacement—Won by Fred Belcher (Knox), 52.75; second, Joe Matson (Fiat), 55.98; third, George Shoeneck (Palmer-Singer), 59.70. Belcher made one trial in 50.57, which was not allowed.

Event No. 10.—Amateur drivers in cars with 451 to 600 cu. in. piston displacement—Won by H. Steinbrugge (Fiat), 1:05.15; second, Robert Haas (Simplex), 1:08.77; third, A. Iselid Haas (Simplex), 1:08.77; third, A. Iselid (Stearns), 1:14.04.

Event No. 11.—Amateur drivers in cars with

231 to 300 cu. in. piston displacement—Won by P. G. Thebud (Marion), 1:12.59. Walkover.

Event No. 12.—Free-for-all racing drivers—Won by David Bruce-Brown (Fiat), 45.29; second, Fred Belcher (Knox), 51.74; third, Joe Matson (Fiat), 53.85.

Event No. 13.—Free-for-all, amateur drivers—Won by R. Heitmeyer (Simplex), 55.34; second, Jack Rutherford (National), 57.07; third, Robert Haas (Simplex), 1:02.20.

Exhibition Events.—H. A. Skilton (Stanley Steamer), 1:55.45; White, 1500-pound truck, 2:00; White, 1½-ton truck, 2:08.22; Kelly, 5-ton truck, 4:41.

To Celebrate Passage of Good Roads Law

Governor Tener, of Pennsylvania, has accepted the invitation to be the guest of honor at a grand jubilee run to be held by the Lehigh Valley Motor Club, of Allentown, Pa., in honor of the enactment of the Sproul good roads law. The run will be held on Wednesday, June 21, and the route will be from Allentown to Buckwood Inn, at Worthington Park, up the Delaware river.

President J. M. Mauser, of the motor club, has donated a sealed time prize. The run north will be made by way of Nazareth, Saylorsburg and Cherry Valley, and the return trip via Marshall Falls and Stroudsburg, making a total of 100 miles for the day. At the dinner following the completion of the run, addresses will be made by Governor Tener and Senator Sproul, the author of the god roads law.

Reduces Automobile Registration Fees

The White bill, introduced into the New York Legislature by Senator White and providing among other things for a reduction of the fees now charged under the Callan law for the registration of cars and chauffeurs, was passed by the Senate on June 8. One of the amendments reduces by one-half the annual fee for automobiles registered after Aug. 1. Another exempts from the registration fee automobiles owned or controlled by the State or by any city or county.

The bill also provides that the Secretary of State may refuse to issue or renew a chauffeur's license if he deems the applicant is unqualified, but such refusal may be reviewed by writ or certiorari. The charge for the renewal of a chauffeur's license is reduced from \$5 to \$2.

Revised List of A. A. A. Race Meets

The official announcement that the National Racing Circuit had been abandoned was made by S. M. Butler, chairman of the Contest Board of the American Automobile Association, on June 8, too late for last week's issue of AUTOMOBILE TOPICS. The dropping of the circuit necessitated the revising of the list of proposed events for 1911 and a copy of this list was sent out with the notice of the circuit. Mr. Butler's announcement was as follows:

The original intention of the proposed National Circuit was to provide a series of automobile contests following each other in logical sequence, both as to date and geographical location, and to enable a maximum number of participants in each contest at a minimum cost for transportation.

Discussion with the Racing Team Managers at Indianapolis on May 30 of the tentative list of contest dates, heretofore published by the Contest Board as proposed National Circuit dates, has served to demonstrate that such dates are too many in number, and beginning on May 30 and extending to November 1 cover too long a period to secure consecutive and continued support of sufficient contestants to justify their designation as "National" events.

No further attempt, therefore, will be made to carry out the National Circuit proposition during the 1911 season.

It should be clearly understood that clubs, associations and individual promoters will therefore make their applications for sanctions for contests in the usual manner, secure their entries and make their own arrangements for such officials as are required under the rules.

In the revised list of 1911 events several contests that were originally scheduled have not been mentioned, while there are a few additions. The race meet that was scheduled for June at Brighton Beach has been dropped from the list, but that does not mean that New Yorkers are to be denied racing on the track by the sea. E. A. Moross has secured sanctions, or at least applied for them for races to be held on the Brighton Beach track on July 3 and 4 and September 2 and 3. It is likely that on one of these dates a twenty-four-hour race will be run. The Port Jefferson hill climb and the Riverhead road race are off the schedule, while no mention is made of the Grand Prize, Vanderbilt or Light Car races. Although the Savannah Automobile Club is on the list for road races during the month of November, no specific dates are given. The Glidden tour has been set down for September. The revised list is as follows:

Track Races

- Chicago (Hawthorne), Homer C. George, June 10, 11.
- Milwaukee, Milwaukee Auto Dealers, June 16, 17.
- Kenosha, Wis., M. A. Kent, June 18.
- Guttenberg, N. J., Henry Shafer, June 17.
- Amarillo, Texas, Panhandle Auto Fair Association, July —.
- Brighton Beach, N. Y., E. A. Moross, July 3, 4.
- Pottsville, Pa., Schuylkill County Centennial, July 4.
- Kansas City, Auto Club of Kansas City, July 4.
- Taylor, Texas, Taylor Auto Club, July 7.
- Philadelphia (Belmont Track) Norristown Auto Club, July 8 or 15.
- Galveston (Beach), Galveston Auto Club, August 3, 4, 5.
- Brighton Beach, N. Y., E. A. Moross, September 2, 4.
- Indianapolis Speedway, September 2, 4.
- Denver, Denver Motor Club, September 4.
- Philadelphia, Philadelphia Auto Trade Association, September 7, 8.
- Hamline Track, Minn., Minnesota State Auto Association, September 7, 8, 9.
- Grand Rapids, Michigan State Auto Association, September 12, 13.
- Knoxville, Tenn., Appalachian Exposition, September 15.
- Denver, Dever Motor Club, September —.
- Syracuse, Auto Club and Dealers, September 16.
- Danbury, Conn., Agricultural Society, October 3, 7.
- Atlanta, Atlanta Auto Association, October —.
- Waco, Texas, Waco Auto Club, November 1.
- San Antonio, Auto Club, November 9, 10, 11.
- Phoenix, Ariz., Maricopa Auto Club, November 10.
- Los Angeles, Los Angeles Motordrome, November 30.
- Los Angeles, Los Angeles Motordrome, December 25, 26.

Hill Climbs

- Algonquin, Chicago Motor Club, June 8.
- New Haven, Conn., Auto Clubs Yale and New Haven, June 10.
- Portland, Maine, Maine Auto Association, June 17.
- Ossining, N. Y., Upper Westchester Auto Club, June 17.
- Baltimore, Md., Auto Club of Maryland, July 1 or 8.
- Worcester, Mass., Worcester Auto Club, July 15.

Road Races

- Bakersfield, Cal., Kern County Merchants' Association, July 4.
- Elgin, Ill., Chicago Motor Club, August 25, 26.
- Los Angeles-Phoenix, Maricopa Auto Club, November 7-10.
- Fairmount Park (Philadelphia), Quaker City Motor Club, October 7.

Lowell, Mass., Lowell Auto Club, September 23.
Savannah, Ga., Savannah Auto Club, November —.

Reliability

Philadelphia (Electrics), Quaker City Motor Club, June 10.

Chicago, Chicago Auto Club, June 15, 16.

Des Moines, Hyperion Field & Motor Club, June 19.

St. Louis, Auto Club of St. Louis, June 24.

Minneapolis, Minnesota State Auto Association, July 14, 17.

St. Louis, Missouri Auto Association, July 4.

Philadelphia (Trucks), Quaker City Motor Club, July 14.

Milwaukee, Wisconsin State Auto Association, July 17-22.

Cleveland, Cleveland News, July 17-19.

Chicago (Trucks), Chicago Evening American, August 1.

Philadelphia, Quaker City Motor Club, August 12.

Chicago (Trucks), Chicago Motor Club, September 1.

Oklahoma City, Daily Oklahoman, September 1.

Glidden Reciprocity, American Automobile Association, September —.

Harrisburg, Pa., Motor Club of Harrisburg, October 16-18.

Chicago (1,000 mile), Chicago Motor Club, October 9-13.

Philadelphia, Quaker City Motor Club, November 2, 3, 4.

Select Dates for Savannah Races

Immediately after it was notified by President Taft that he had designated the fifth Thursday in November as Thanksgiving Day this year, the Savannah Automobile Club made announcement to the effect that it would hold the Grand Prize race on November 29, the day before the holiday. The Georgia club, it was said, intended to ask the American Automobile Association for a sanction for the running of the Vanderbilt Cup race on November 28, the day previous to the contest for the gold cup of the Automobile Club of America. The Light Car race, it is said, will be run in conjunction with the Vanderbilt Cup race.

There is apt to be considerable friction over the decision of the Georgia motorists to hold the Vanderbilt and Grand Prize races on consecutive days, as it is recognized that a few of the manufacturers will have cars entered in both events and no time for practice or to repair damages caused by the strain of the first race will inconvenience

them a little. Some of the entrants may have different cars for each race, but there is too much of an expense for most of them to take upon themselves. There is likely to be a movement for the holding of the Vanderbilt Cup race several days before the Grand Prize. The Savannah club is positive of securing the service of the National Guards for police purposes during the races, as orders have already been issued for the soldiers to go into encampment at Savannah in November.

Travels at Rate of 155 Miles an Hour

A cable despatch in a New York daily on June 9 said that a French publication reports that Jules Vedrine, the winner of the Paris to Madrid flight, on June 6, covered the 77½ miles separating Dijon and Saint Laurent-Macon in thirty minutes, or at an average speed of 155 miles an hour. The paper quotes the aviator as saying that he was pushed by a wind so violent that at times he flew with the tail of his air machine perpendicular. He also encountered wind pockets that caused his monoplane to make frightful drops, some times descending 900 feet in a few seconds. Mons. Vedrine suffered only through the strain on his eyes.

On June 9 Mons. Averigo flew from Orleans to Buc in 55 minutes. The distance is approximately 85 miles. Averigo traveled at a height of 7,500 feet in a northeast wind having a velocity of 30 miles an hour.

Cuneos Offer a Trophy

An American road record trophy, valued at \$2,000, has been donated by Mr. and Mrs. Andrew Cuneo to be awarded to the racing pilot who succeeds in shattering the present mark of 73.22 miles an hour made by Teddy Tetzlaff at Santa Monica last November. The deed of gift calls for a race of 200 miles or more. With the announcement of the donation of the trophy, came the report that plans have been laid for the running of a road race in the vicinity of Shinnecock Hills, Southampton or Riverhead, Long Island, some time during the coming August. It is said that these places are so far removed from the city that the possibilities of too large a crowd attending is removed and with it the necessity of the employment of the militia to guard the roads.

Death Marks Hawthorne Fiasco

A combination of serious accidents, bad track conditions and disappointing races at the race meet on the Hawthorne track in Chicago on June 10 and 11 gave automobile racing a bad set-back in the Windy City. The race meet, if it can be called by such a name, was replete with mishaps, the very first race on the opening day being marked with an accident that resulted in the death of Marcel Basle, one of the competing drivers. In the second event on the same day another accident occurred, but fortunately it did not result in injury to any one. The promoters and officials at the meet then deemed it prudent, because of the bad condition of the track, to call off the remaining races for the day.

The more than 8,000 persons cried fake and left the track, vowing never to pay to see a race of the kind again. On the next day, however, after the managers had advertised that the track had been put in safe condition a crowd of 7,000 people filled the stands only to be treated to a series of "races" in which there was no competition. It was a bad case of hippodroming and the crowd did not take long to recognize it and vent their disapproval. The entries and distances of the races were also cut considerably.

The accident in which Marcel Basle, who is a brother of the veteran driver, Charles Basle, was killed, occurred in the first race on the opening day, a five-mile event. He was leading the field in a special Abbott-Detroit with a 45-inch tread on the fourth mile, when on "Dead Man's Curve" the car struck a soft spot in the road and skidded off the track.

It turned turtle and then righted itself. Basle had the steering column jammed into his chest and was then thrown out. He was picked up unconscious and hurried to the St. Anthony de Padua Hospital, where he died an hour later.

Frank Kulick, at the wheel of a Ford, continued the race and was returned a winner. The second race was a five-mile event divided into two heats, with six cars in each heat and the first two drivers in each were to qualify for the final.

The first heat was won by Schillo in a Mercer, with Joe Dawson in a Marmon second and Mouckmeier in a Staver-Chicago

third. The time was 5 minutes 25 1-5 seconds. In the second heat Joe Jagersburger driving a Case was the winner in 5:28 1-5, with Donnelly in a Cino second.

Jagersburger, Dawson, Schillo and Donnelly lined up for the final heat and it was on the first round of this race that the second accident of the day occurred. Just as Jagersburger struck the spot where Basle had met with the accident but ten minutes previously, his car left the road when a tire flew off and crashed through a fence. Jagersburger was thrown out, but was not injured. The officials, David Beecroft, representing the American Automobile Association, and John G. De Long, referee of the meet, then held a consultation and told Manager Homer George that the races could not continue while the track was in bad condition. The crowd would not leave the track, however, until they had seen De Palma, Dawson, Harroun and Burman give exhibition drives.

Announcements were made that the track would be put into condition for the second day's racing and that the star aggregation of drivers gathered would take part in the races.

As the result of these announcements a large crowd gathered, but they were thoroughly disappointed. The Ford, Marmon, Staver, F. A. L., Warren-Detroit, Ohio and Abbott-Detroit companies withdrew their entries because of the bad condition of the track. The uncompleted race of the first day was restarted, but reduced from a five to three-mile event. Dawson withdrew and the field was left to Jagersburger, Schillo and Donnelly. Schillo in a Mercer won in 3 minutes 18 4-5 seconds, with Jagersburger in a Case second and Donnelly's Cino third.

The other events on the program were reduced in distance, the feature event, a fifty-mile contest being cut to ten and only four cars starting. Rainey's car threw a tire in this race and the contest was stopped until investigation was made as to whether Rainey was injured or not. After it was seen that the driver had escaped the contest was restarted. Jagersburger won. De Palma and Knipper, in a Simplex and Benz, respectively, gave a five-mile exhibition, which De Palma won in 5:14 2-5 seconds.

Smith Asseverates He is Right

Commissioner of Motor Vehicles J. B. R. Smith, of New Jersey, has stirred up a hornets' nest by his action in withdrawing the 8-day license privilege from Pennsylvania and Delaware and threatening to do so in the case of New York. Rebuked for so doing by the Associated Automobile Clubs of New Jersey at their meeting last week, he issued a statement, in which he made the singular assertion that he was right and the motorists of the State wrong. The statement follows:

The attitude of the officers of the Associated Automobile Clubs is not surprising. They are the New Jersey representatives of the American Automobile Association, an association of non-resident motorists who are unfortunately unfriendly to New Jersey laws and the New Jersey motorists, though there are still several of the smaller motorists' clubs of this State affiliated with them. The representatives of this organization have persistently endeavored to coerce our legislators and are responsible in a good measure, for the discriminating legislation and the persecution of our motorists in other states.

They have persistently opposed true reciprocity with New Jersey, and to-day refuse to assist in getting legislation in New York that will enable that State to reciprocate with New Jersey, thereby putting both New Jersey and New York motorists at a great additional inconvenience and expense, for the reason, as they express it, that they want "free privileges without registration or nothing." If reciprocity with New York fails and New York motorists are deprived of the eight days' privilege, the blame will lie principally with the representatives of this association, even as it now lies with them for the inability of Pennsylvania motorists to enjoy these privileges in New Jersey and for the unnecessary annoyance and persecutions imposed upon New Jersey motorists by non-residents during the last year.

Newark Club's Secession

The general policy of these representatives has been such that the big Newark club, namely, the New Jersey Automobile and Motor Club, containing a membership of at least twice as large as that of all others of the State combined, was last year compelled to sever its connection with the central body, while the Camden and Trenton clubs have long ceased to have any affiliation with it, and I suspect that when the real service of the association to New Jersey motorists is better understood, there will be still further withdrawals.

These withdrawals must not be taken to mean that the withdrawing clubs either did not or do not now favor "free privileges without registration for non-resident motorists." They labored just as earnestly and far more intelligently to that end than did their rival motorists, and I think it quite safe to say that they failed because of the

unwise and unpatriotic efforts of the representatives of the Associated Clubs, whose coercive methods made it impossible for many members of the Legislature to maintain their self-respect and support the measure, though there had been pre-election pledges sufficient to pass a reasonable measure.

I regret to say these things, but the public should understand the source of these latest criticisms of the department. The department finds well-regulated automobile clubs of the greater assistance in promoting proper and safe motoring, and for that reason has solicited and formerly received the valued support of the American Automobile Association, and I sincerely hope that that organization may soon return to its former field of effort in New Jersey.

A. A. A. Enemy of Motorists

Less criticism of the law, greater efforts to comply with its reasonable provisions, and in a constructive spirit, to mold its questionable provisions into reasonable provisions, to build up, not tear down the law, to make it better, not worse, was once, and I believe it will be again, its aim. But so long as the present policy maintains, the representatives of the American Automobile Association must stand as enemies to the best interests of the law-loving New Jersey motorists. If by pursuing such a course the association can better serve its out-of-State members, possibly its acts may after all, from that standpoint, be justified, but on this point even the opinion of the out-of-State motorists, after they realize where such a course inevitably leads, will be interesting.

But whatever may happen, I will not see the New Jersey laws traduced, her lawmakers coerced, though unsuccessfully, and her motorists persecuted, without the most vigorous resentment of which I am capable, and if the representatives of the American Automobile Association are the transgressors, so much the worse. Furthermore, I will not allow the claim of these representatives that they are favoring automobile reciprocity with New Jersey to go unchallenged.

They do not, and have not at any time favored the first principle of reciprocity with this State. They have persistently declared that they want "free privileges without registration or nothing," a proposition, which may or may not have merit, according to local conditions, but one which bears no resemblance whatever of reciprocity. If reciprocity is to be had, each State must give something. I do not ask that we receive more than we give. I do ask, and in all fairness insist, that we shall receive that which at least bears some little resemblance to what we give.

Insists on Reciprocity

If we should receive free privileges from New York and Pennsylvania in exchange for our one dollar privilege, I insist that the balance, for reasons often expressed, would still be to our credit, and such an arrangement would in my opinion be

fairly reciprocal, but I do not ask this. I leave out of consideration our advantages of roads, of location, of efficient regulations, of convenient registration systems, and our numerous other advantages, and ask only that our touring motorists shall have the same special registration and free privileges that we accord non-residents. This is our motorists' rights. For me to do less would be unfair and unjust alike to our loyal motorists and to our taxpayers, and I believe no right-minded motorists of either New York or any other State will undertake to challenge this position.

Furthermore, this is clearly the intent of our law, as its reading unmistakably shows, and as the Associated Clubs' representatives will understand. The threat of coercion on the part of this association has the same effect that similar acts by others have already had.

The question of free privileges either with or without registration will, in the light of reason, in due time be settled, but it can only be settled by those who are anxious to deal fairly as well as to be fairly dealt with. The great body of New Jersey motorists are entirely capable of handling their end of this subject, as was clearly demonstrated last winter by those who looked after the interests of the Prince bill, and they will continue to guard their interests without the dictatorial interference of unsympathetic and antagonistic outside interests.

The inconsistency of this portion is pointed out in a letter sent to the *Newark News* this week by Robert Bruce, manager of the A. A. Touring Bureau. It is as follows:

My attention has been called to the statement of Hon. J. B. R. Smith, Commissioner of Motor Vehicles, and also your editorial in last night's issue. Mr. Smith appears to make out a very good case, but resolved to the last analysis, it is this:

All States except New Jersey, allow tourists to come in upon their home licenses, and as soon as New Jersey comes in line with the rest of the Union, the whole matter will be settled from the Atlantic to the Pacific, and from Canada to the Gulf.

The Department of Motor Vehicles at Trenton, practically suggests that other States modify their present liberal laws, and issue eight-day licenses to accord with the practice of New Jersey. This would not only complicate the entire situation, but would make it necessary for the touring motorist to arrange for three different tags or permits to run from New York to Boston; in our opinion it would decrease touring by at least fifty per cent.

It is reasonably certain that the other states will make no such changes in order to bring their practice in line with that of New Jersey, but sooner or later, New Jersey must bring its practice into line with that of the other States.

State Clubs Protest Smith's Action

At the well attended annual meeting of the Associated Automobile Clubs of New Jersey held in Newark on Friday night, June 9, State Motor Vehicle Commissioner J. B. R. Smith's action in withdrawing the eight-day license privilege from Pennsylvania and Delaware motorists and his threat to do the same to New Yorkers, was thoroughly criticised and protested. Among those present at the meeting were President Joseph H. Wood, J. H. Edwards, J. V. Z. Anthony, F. B. Stratford, Dr. S. G. Lee, Dr. E. C. Siebert, G. A. Post, C. E. Holgate, George D. Proud, Charles Cammerer and H. A. Bonnell.

It was stated that it was not intended that the clause in the motor vehicle laws concerning 8-day licenses should give the Commissioner power to revoke those privileges to non-resident motorists. The resolution passed by the clubs also protested remarks contained in one of Smith's letters to Robert Hooper, president of the American Automobile Association, in which he accused the national organization of trying to coerce automobile legislation in New Jersey. In his letter Commissioner Smith is alleged to have reiterated what he had previously stated, that New Jersey motorists were wrong, and that he (Smith) was right.

"It seems peculiar," declared the resolution, "that every other State in the Union and practically every foreign country provides for reciprocal privileges, but Smith thinks there is something peculiarly different about New Jersey and therefore should have different laws."

A motion was passed commending the policy of State Board Commissioner Stevens in revising obsolete methods of upkeep for improved roads.

Practically all of the old officers were re-elected, as follows: President, Joseph H. Wood; first vice-president, J. H. Edwards, Jersey City; second vice-president, E. H. Radcl, New Brunswick; third vice-president, G. A. Post, Paterson; secretary-treasurer, Horace A. Bonnell, East Orange.

The newly organized Newark Motor Club was elected to membership in the association.

The annual motor boat race from New York to Bermuda, which was scheduled to start from New York to-day—June 17, has been postponed until early September.

The Good Roads Work of the A. A. A.

The Board of Directors of the American Automobile Association held its semi-annual meeting at national headquarters, 437 Fifth Avenue, New York, on June 6, and, as was the case at several other recent meetings of the officials of the controlling body, the subject of good roads occupied considerable of the time. The A. A. A. now has in its membership thirty-eight state bodies, the latest entrant in the ranks being South Carolina, which joined at the meeting on the 6th inst. Pennsylvania notified headquarters that there was an increase of five clubs in that State; Michigan, two; New York, three, while other States reported single gains. The club total is now 281, with a grand total in excess of 41,000 members.

President Robert P. Hooper was chairman at the meeting at which the proposition of Federal aid in road building occupied a goodly part of the session. The reports from various parts of the country made clear the pronounced progress.

Reference was made to the famous Du Pont highway which will run the entire length of Delaware, thanks to the generosity of General T. Coleman Du Pont, a member of the Delaware Automobile Association. The Automobile Club of Maryland and the Delaware body have co-operated in the marking of the road from Washington to Philadelphia.

Illustration of the diversified highway improvement efforts of A. A. A. clubs was afforded recently by the Benson (Minn.) Automobile Club, the members of which conveyed farmers from miles around to the town for a good roads picture lecture and other entertainment. Many of the guests had never before appreciated either the value of the motor-driven vehicle or realized the importance of first-class highways.

From Connecticut came news of the adoption of a law which contains no reference to miles-per-hour restrictions, and, furthermore, the statute grants thirty days to non-residents, with the single proviso that they must have registered at home. The Maine Automobile Association announced the passage of a trunk-line highway bill which will give the Pine Tree State miles of excellent roads.

The New Jersey delegation could not tell of the passage of an up-to-date reciprocity clause, but they were able to say that an amendment to the lights-on-all-vehicles law now made it truly effective. The newly formed Newark Motor Club will work with the Associated Automobile Clubs of New Jersey in perfecting state-wide organization, which, it is predicted, will be plenty powerful enough next winter to rid the commonwealth of its obnoxious power-of-attorney clause. Pennsylvania, Vermont, Maryland, and Virginia all recorded the passage of good roads legislation, while Nebraska predicted a prairie highway before long and Texas also supplied news of future millions to be expended.

California is busily engaged in preparing for the expenditure of its \$18,000,000 appropriation, and both the California States bodies, one North and the other South of the Tehachapi range, are entitled to much credit in the premises. The Louisiana Motor Federation has just completed, in the vicinity of New Orleans, the famous Chef Mentour road, while the Portland (Ore.) Automobile Club is assuming the burden of work requisite to the completion of the celebrated Mount Hood highway.

The Wisconsin and Minnesota state associations have scheduled reliability tours which promise to give impetus to highway improvement. Arizona and New Mexico, celebrating their forthcoming entry into Statehood, intend to enter upon a vigorous building of roads. Missouri is preparing for highway advancement, and the inter-mountain States of Idaho, Wyoming, Utah, Montana, and Nevada are thoroughly interested in the subject. Colorado is employing its convicts, and many other states are doing the same, with Georgia leading all in this regard.

The American Automobile Association has some extensive plans in connection with good roads works which President Hooper will soon announce.

Propose "Lincoln Farm" Highway

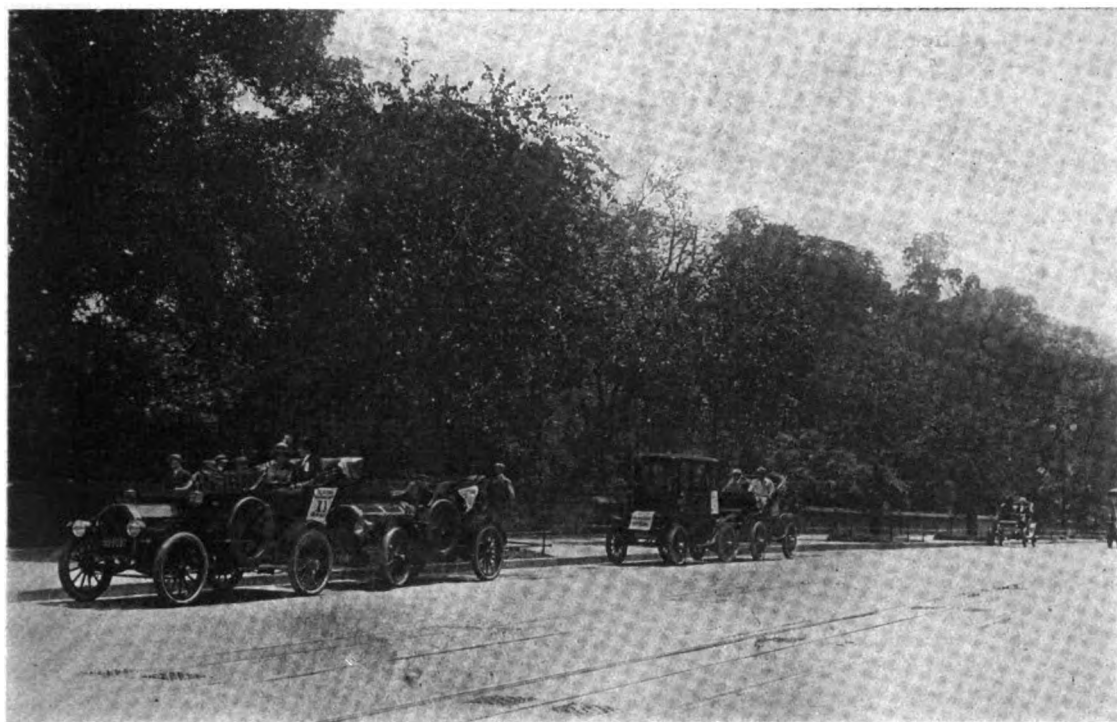
A movement has been started in Kentucky for the construction of a modern highway from Louisville to the Lincoln farm, near Hodgenville, in Larue County.

New York Electrics Tour Long Island

The Electric Automobile Dealers' Association of New York held what was termed a suburbing contest over Long Island roads on Wednesday, June 14, and the affair was more of a success than was anticipated. Eleven electric cars competed in the contest and fully demonstrated that that type of vehicle is suitable for other service than traveling about city streets. One of the objects of the run, which was of the secret time variety, was to

ticularly earned the disgust of the contestants for this supposed highway was covered with mud and large holes, some of them almost a foot deep, were numerous.

The cars were divided into two classes, Division A for the men drivers, and Division B for the women pilots. In each class there was a prize offered for the driver coming nearest to the secret time selected for the run. In Division A, R. E. Darling in a Detroit Electric



AT CENTRAL PARK SOUTH—THE STARTING POINT

show that an electric can be handled as easily by a woman as by one of the other sex. On the run Wednesday three women drove their cars over the entire 38.6 miles.

The cars left Columbus Circle, New York, about 10:45 and then crossed the Queensboro Bridge. The route then led through Elmhurst, Forest Hill, Jamaica, Bellerose, where the luncheon stop was made; Little Neck, Flushing, Corona and back to Elmhurst and to the starting point via the Queensboro Bridge. The roads on Long Island were in very bad condition after the heavy rainstorms of the last week, but the cars went over them without difficulty. Thompson Avenue in par-

was the best guesser, covering the trip, including the stop at Bellerose for lunch, in 3 hours 26 minutes 59 seconds, which was five minutes faster than the secret time, which was 3 hours 31 minutes. Mrs. O. Y. Kenworthy in a Rauch and Lang was more successful in the guessing line than the two other women drivers, Mrs. C. R. Erkman, who drove a Detroit Electric, and Mrs. George J. Glaser, in a Detroit Electric, and she won the prize in the division for women. Her time was 3 hours 27 minutes, which was one second better than the time made by the winner of the men's division. Hugh Lynch, driving a Baker, made the fastest time of the run.

German Aviators Start 1,164 Mile Flight

More than 200,000 persons gathered at the Johannisthal aerodrome, near Berlin, at 5 o'clock on the morning of June 11, to witness the start of the first big aeroplane flight ever held in Germany. The entrants in the race are required to cover 1,164 miles in order to win any of the prizes, which aggregate \$106,250, including that of \$25,000 for the winner of the race proper. The race was organized by the Berliner Zeitunz am Mittag and is closed to German aviators, who have the privilege of using foreign machines. The flight is arranged into thirteen stages and the route, which is triangular, darts north to the North Sea, then southwest to the valley of the Rhine, and back to Berlin, embracing these towns and cities in the order named: Magdeburg, Schwerin, Hamburg, Kiel, Lubeck, Luneburg, Hanover, Bielefeld, Munster, Cologns, Dortmund, Nordhausen, Halberstadt and Dessau.

Of the twenty-four entries, but seven machines started in the race on the first day and of these only one reached the first control at Magdeburg. A very strong wind was blowing during the early morning and the other

six aviators had to descend at towns between Berlin and Magdeburg. The latter town is 76 miles from the capital. Otto Lindpainter was the only aviator to reach Magdeburg. On the following day the wind still continued to blow with some velocity, but Benno Koenig, Bruno Buechner, Dr. Oscar Wiltenstein and Felix Laitsch, each with a passenger, succeeded in reaching Magdeburg.

An accident eliminated one of the aviators from the race on Tuesday when Karl Mueller, in attempting to land at Magdeburg, fell 125 feet and received concussion of the brain. His biplane was completely wrecked. The five aviators who had reached Magdeburg within the prescribed time restarted on their journey on Tuesday. They were accompanied by Eugene Wiencziers, who had not been able to complete the first scheduled flight. All except Laitsch arrived at the second control, Schwerin, 113 miles distant from Magdeburg, before six o'clock Tuesday night. Laitsch lost his way in the air and drifted to Brunswick. He ascended again, but was compelled to land for the night at a small village on the way to Schwerin.

Aviator Drops in Italian Mountains

After being delayed several days through treacherous storms, of both wind and rain, three of the four aviators who had arrived in Rome on the Paris to Rome to Turin flight, abandoned the last leg of the journey. The three to give up the flight were Mons. Garros, Beaumont and Vidart. Although the atmosphere conditions were far from being just what is needed for aeroplane flights, Herr Frey, the German representative in the race, made numerous attempts to leave Rome, but was compelled to land after traveling a short distance.

On June 13 Frey left Rome in the morning despite the warnings of many, and he had traveled but a short distance when he met with an accident that narrowly escaped being fatal for him. While flying in the mountainous territory lying between Viterbo and Rome he encountered a heavy hail and rain storm.

He attempted to rise above the clouds, but his machine refused to answer his manipulation of the levers and instead dropped like a plummet into a ravine.

That Herr Frey was not killed was due to the heavy helmet protecting his head and the marshy condition of the ground into which he plunged. Both his arms and one leg were broken, while he was badly cut about the face.

When a Red Cross searching party from the San Martino station on Monte Simone found him he had lost much blood and was in an almost unconscious condition, buried under the debris of the aeroplane. The aviator was taken on a stretcher to the hospital at Ronciglione.

He was suffering greatly, but was able to tell of having been lost in the fog, although he could give no reason for the fall.

Rapid Development of Good Roads

"Iowa never before made such wonderful strides toward ultimate good roads as it has in the past twelve months," says J. W. Eichinger, in *The Motorist*.

"Had the River-to-River Road and the agitation which gave it birth done nothing further than developed a single dragged highway across the State of Iowa for a single season, the time and energy spent on the project would have been well spent.

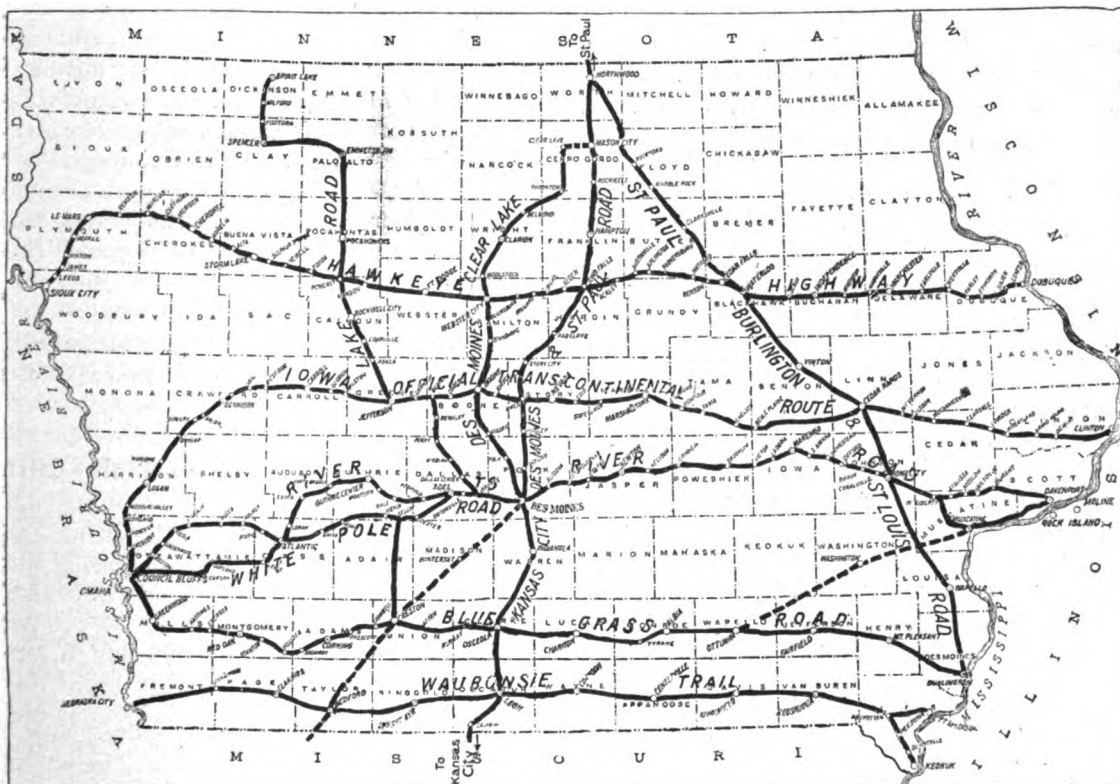
"But the stimulating effect of the River-to-River road toward road improvement has gone beyond the borders of Iowa. It has gone to every corner of the United States, has penetrated to the far away provinces of Siberian Russia and has gone on around the world to the island of New Zealand, many thousands of miles away in the southern Pacific.

"But these tourist roads form only a small part of the actual visible results directly due to the River-to-River road project and the general good roads campaign which accompanied it. There is hardly a town in the State but what has taken up the suggestion of im-

proving a system of roads radiating out and providing main highways of travel into the city. Between many of these towns these roads radiating out have met and joined, providing continuous inter-city roads and going a long ways toward covering the city with a network of improved dirt roads.

"From many points all over the United States have come requests for detailed information as to the methods employed in improving the River-to-River road and the plan of organization of the association which maintains it. Similar requests have come from England, from road officials of provinces in Russia and a shire in New Zealand and in addition it may be said that the English, Russian and New Zealand correspondents all stated that their knowledge of the River-to-River road of Iowa had come through articles concerning the famous Iowa highway in their own local magazines.

"The River-to-River road and the other tourist roads of Iowa are not for the automobile owner and the tourist alone. People



who made such charges when the project was proposed have long since been silenced. Farmers in every part of Iowa are eager to have such roads pass their farms. One man has offered \$1,000 to have the routing of one of these main roads changed so that it might pass his own farm and put his home on the main traveled highway between two important points.

"River-to-River farmers place the value of the road to their farm land at \$10 per acre. Not only has the improved road placed them in easier and quicker communication with their market place but it has gone far to remove the dreaded isolation of farm life. They find it easier to go and come from the city and to visit their neighbors. They find that the steady stream of tourists that go sweeping by with a wave of the hand and a cherry greeting add a new touch of human interest to the drudgery of their farm work absolutely unknown before. The boys and girls have their longings for the sights and social pleasures of the city to a certain extent and they are more content to remain on the farm.

"The River-to-River road is not a macadam surface nor a brick pavement. It is simply a dirt road that gets slippery and muddy when it rains. But a few hours sunshine and wind and a trip with the road drag consuming half an hour for a mile of road and it is as good or better in many ways than a pavement till the next storm, when the drag must again be brought into operation.

"The volunteers who have brought this road into existence have their eyes set upon the hard surface road. They realize that sentiment in Iowa was not at the stage where the jump could be made from ruts and mud to brick pavements. They planned this road in the hope of further creating and developing sentiment which in the end will lead to a demand for hard roads and a willingness to pay for them. The results have been even greater than hoped for. While the Legislature had not reached the point where it could be brought to provide for a great comprehensive road building and maintaining system, sentiment has been so strong that measures providing for mandatory dragging and the use of the automobile tax money for good roads alone passed almost unanimously. Meanwhile for another two years, the work will go on in the same manner as in the past year and a

half, and when the next Legislature assembles it is the belief that the sentiment in Iowa will be overwhelming for the necessary legislation denied at the present session."

Complete Routing Wisconsin Tour

Matthew C. Moore, president of the Wisconsin State Automobile Association, has finished rechecking the route for the second annual Wisconsin reliability tour, which begins July 17 and ends July 22, at Milwaukee. The terrible road conditions encountered in the almost virgin country in extreme north-eastern Wisconsin were duplicated in the older southwestern section. The tour will start from Milwaukee on Monday morning, July 17, the day's objective point being Marinette, Wis. On the second night the tourists will camp at Antigo or Rhienlander; on the third at La Crosse, where the fourth day will be spent as a holiday and in attending the mid-summer meeting of the W. S. A. A. Madison, the state capital, will be the night control on the fifth day and the sixth will be devoted to a run to Milwaukee via Janesville, Beloit, Kenosha, Racine and South Milwaukee.

There are four main trophies, as follows: *Milwaukee Sentinel* sweepstakes cup, for one year's possession by the car making the best showing; the *Milwaukee Journal* sweepstakes trophy for permanent possession by the car making the best showing; the *Evening Wisconsin* trophy, for permanent possession by the car in the roadster and runabout division making the best score and the Emil Schandein trophy, for permanent possession by the private owner making the best showing in the private owners' division. This year's tour will cover about 950 miles, about 75 miles more than last year.

Massachusetts House Passes Lights Bill

Despite strenuous opposition from the farmers and the State grange, the Massachusetts House on June 12 passed a bill requiring all vehicles, except those loaded with hay and straw, to carry lights at night, by a roll call of 104 to 87. On a rising vote the bill was passed by 65 to 52. The bill had the support of the automobile owners, but the farmers opposed it on the ground that they were being discriminated against.

Three Shows Projected for New York

New York will have plenty of shows next winter. Whereas not a single exhibition was regarded as certain in some quarters, owing to the report that Madison Square Garden is to be torn down, there is prospect at present of three separate and distinct shows. That at Madison Square Garden will be conducted, as usual, by the Board of Trade (formerly the A. L. A. M.), the contract being in existence with the Garden people which ensures this, the dates being January 6 to 20.

Now comes the announcement that the National Association of Automobile Manufacturers, Inc., has "practically decided to conduct a show in New York during the coming winter." Inasmuch as the N. A. A. M. is on exceedingly friendly terms with the Board of Trade the two shows will not be antagonistic, although they will probably be held on the same dates. In fact, the exhibition of the N. A. A. M. will be a sort of overflow show, taking in concerns which are unable to obtain space from the promoters of the Garden show. The third show in contemplation for next winter is that of the A. M. C. M. A., which last year held a show in Grand Central Palace. It has already laid plans for a repetition of the affair.

The N. A. A. M. show was announced early this week and proved a surprise to all except a very few people. It developed that the matter was fully discussed at a meeting of the Executive Committee held on Thursday, June 8, at which there were present the following:

William E. Metzger, S. D. Waldon, Thomas Henderson, Charles Clifton, Alfred Reeves, R. D. Chapin, L. H. Kittredge, W. T. White, A. L. Pope, J. W. Gilson, S. A. Miles, general manager N. A. A. M.

The membership of the National Association, which has been growing rapidly of late, it is said, embraces a number of concerns for whom it is impossible to provide space at the Madison Square Garden show, under the Automobile Board of Trade. The association feels that provision should be made, not only for such members, but for all other manufacturers so that all may have an equal opportunity to place their new models before the Eastern public. It is probable, and indeed

practically certain, that the dates will be identical with those of the Garden show. Officials of the association are now examining available buildings, of which there are at least three in New York. Definite action may be expected at a meeting to be held on Friday, July 7.

At the April meeting the association adopted a resolution relative to those manufacturers who took part in an unsanctioned show last winter. It had been reported by many of these manufacturers that they participated through misunderstanding of the association's rules and other circumstances. The Executive Committee felt that the object of the sanction rule had been sufficiently explicit by the disbarment of these manufacturers from sanctioned shows last winter, and decided to reinstate those makers who filed formal application. Since that time the Columbus Buggy Co., Geneva Wagon Co., Seitz Auto & Transmission Co., Maytag-Nason Motor Co., Lion Motor Car Co. and Alpena Motor Car Co. have been reinstated.

An arrangement has been entered into between the National Association of Automobile Manufacturers, Inc., and the Motor & Accessory Manufacturers, under which the traffic interest of members of the latter will be taken care of by the traffic department of the former.

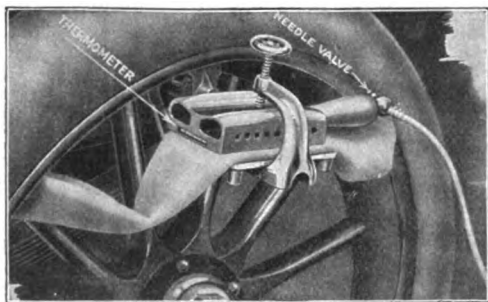
Accessory manufacturers will be extended exactly the same privileges as are now enjoyed by members of the National Association, which means that such matters as freight rates, classification, the checking of freight bills, the preparation and prosecution of claims, &c., will be taken care of without cost to any member of the motor and accessory manufacturers.

Eleven members have recently been added to the membership list of the National Association of Automobile Manufacturers, Inc.

Within the last day or two a number of buildings have been investigated, and no less than three have been found in which a show of great proportions may be held. Negotiations are in progress, and it is likely that, all other things being equal, the location as near Madison Square Garden as possible will be selected, the report concludes.

Various Forms of Vulcanizing Equipment

Although comparatively few automobile owners have as yet added anything in the way of a vulcanizing apparatus to their private garage equipment, the possibilities of an outfit of this kind, from an economical, as well as a tire-saving viewpoint, are being realized more and more all the time.



"ECONOMY" MAKING TUBE REPAIR

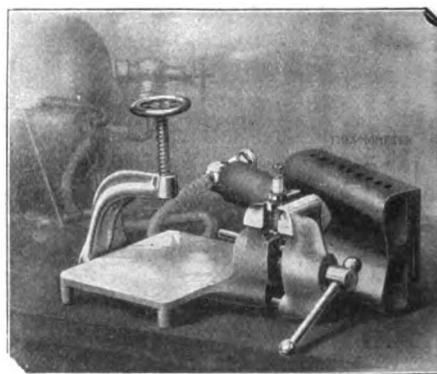
Where a car owner has his own vulcanizing outfit not only can he save a goodly sum in the course of a year in tire repair bills, but it is possible for him to give attention to the little cuts and bruises in his casings. Where these are neglected water, dirt, oil and grit are permitted to get in, and all this helps very materially in the rapid deterioration of the tire. With a dependence on the professional tire repair people these minor abrasions in casings are quite apt to be overlooked with the thought that they are not of sufficient consequence to bother with.

AUTOMOBILE TOPICS readers who are interested in vulcanizing apparatus will find the following article very beneficial. It gives important details of a number of the more important portable devices, as well as some of the larger equipment for garage use:

A very simple, practical and durable device is the "Economy" Vise and Vulcanizer, made by the Garage Equipment Mfg. Co., of Milwaukee, Wis. The principle feature of this apparatus, which sells complete for \$12, is the ease by which heat is obtained by burning gas from the gas tank, generator or regular illuminating gas. The combination consists of a vise, a smooth plate to lay the tube on while preparing a patch, a hot plate having one flat surface for inner tubes, and a concave surface for outer casing, and also a yoke to

clamp the hot plate to the casing. A thoroughly protected thermometer, placed in one end of the hot plate provides for an accurate indication of the temperature. The time required to bring the instrument to the necessary temperature is about five minutes, a working heat being obtained by simply operating a fine needle valve which controls the flame. The equipment is very compact, weighing less than nine pounds complete.

The C. A. Shaler Co., of Waupun, Wis., manufacture a wide variety of vulcanizers, their line comprising instruments for the use of the owner of the smallest runabout up to a complete garage equipment. The price on these vulcanizers run from \$10 for their alcohol-operated "Stitch-in-Time" model, to \$30 for a large rheostat heat controlled apparatus capable of vulcanizing six tubes at a time. The "Stitch-in-Time" model is made expressly for automobile owners and for repair shops and garages that do not have access to electric current. It is heated by an alcohol lamp, the temperature being regulated by a thermostat which gives automatic control, so that after lighting the lamp needs no watching. This vulcanizer is very small and it can be carried easily in the ordinary tool kit. The

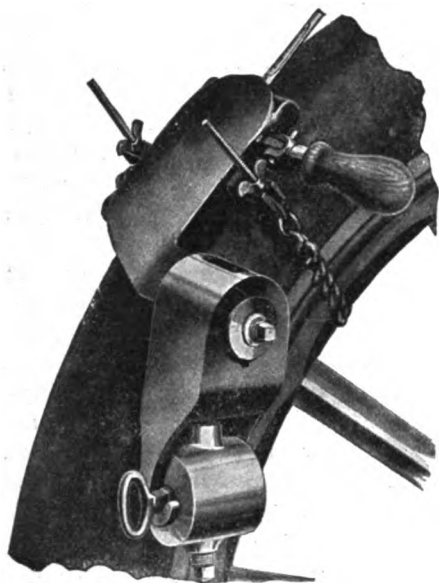


SHOWING "ECONOMY" VISE ATTACHMENT

vulcanizing surface is 3 x 5 inches and a repair as much larger as desired can be made by resetting the vulcanizer. There are two vulcanizing surfaces: (1) a flat face for vulcanizing anything in an inner tube from a nail hole to a slit two feet long. A shelf is furnished on which to vulcanize tubes. It has an iron table, asbestos inlaid; (2) a concave face

for vulcanizing any sized casing without removing it from the rim.

The Gibney "Eleck-Trick" vulcanizer,



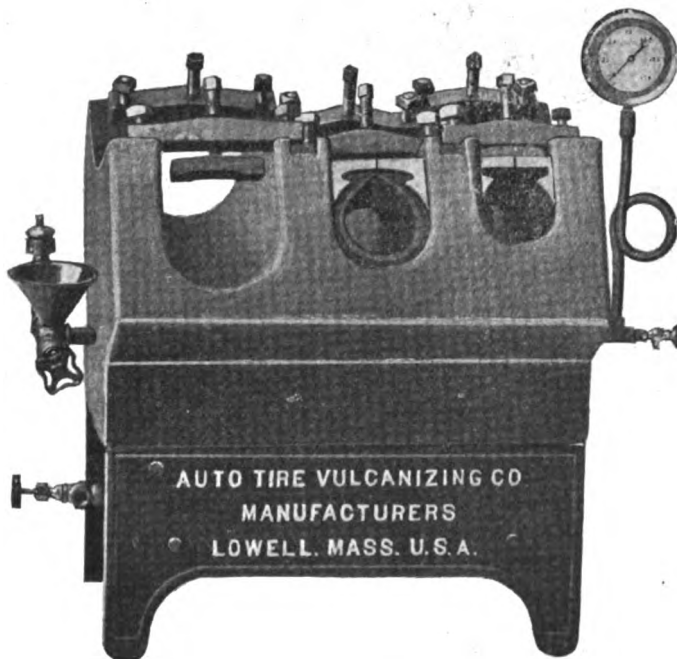
THE "SIMPLICITY" VULCANIZER

made by James L. Gibney & Brother, of Philadelphia, is a very compact instrument, the overall dimensions being 6 inches by 11½ inches, with a vulcanizing surface of 3 x 6 inches. It is made of nickel-plated cast steel, and comes complete with ten feet of covered electric wire, with a plug to screw into the socket of any convenient electric light fixture. There is also included in the Gibney outfit an asbestos pad, and operating board, a clamp for fastening the vulcanizer over the casing or tube, and enough raw stock, cement and necessary material to make from 10 to 20 vulcanized jobs. A thermometer is provided to register the correct degree of heat, and the equipment also includes a thermostat which will maintain the temperature at any desired point, from 275 to 300 degrees.

Steam provides the necessary heat for the "Simplicity" vulcanizer, made by the Simplicity Supply Company, of Cleveland, Ohio. Water is contained in the body of the vulcanizer.

By means of an adjustable alcohol lamp the water is converted into steam, which provides a steady, even heat, and is evenly distributed to all parts of the vulcanizer. This heating process is claimed to have the effect of curing the rubber without hardening it like a dry heat. After reaching a vulcanizing point the heat is controlled by a perforated slide, this slide maintaining an even vulcanizing heat. The "Simplicity" can be used at any desirable angle on inner tube or casing. The cover of the box forms a vulcanizing board which can be clamped to a table, running board of the car, or any place handy. \$12 is the price of a complete equipment.

The Auto Tire Vulcanizing Co., of Lowell, Mass., makes a specialty of large outfits for garage work. Their latest product is the adjustable sectional vulcanizer shown in the accompanying illustration. It will accommodate casings from 3 inches to 5½ inches, and \$145 is the price where it is fitted to connect to a steam boiler, and \$155 where it is equipped for a gas burner. This vulcanizer has three cavities, and it is provided with three sets of bead moulds for the various makes of tires. It also has a steam gauge, water

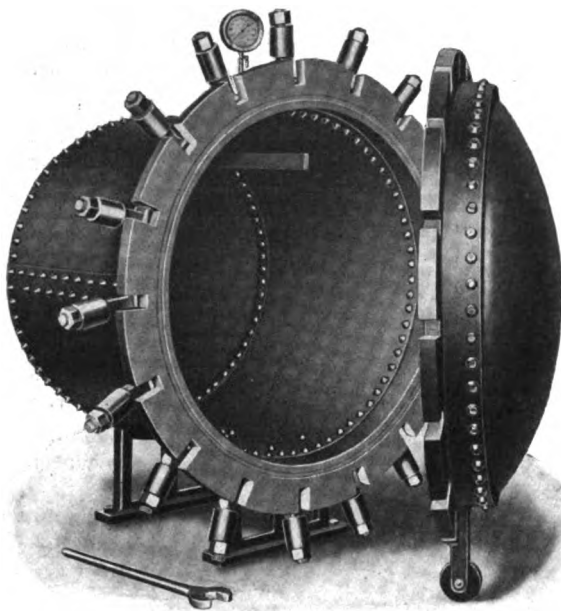


OUTFIT OF AUTO TIRE VULCANIZING CO.

gauge, pop safety valve, globe valve, filler, gas burner and valve. and six clamps for

clamping the bead moulds in place. This vulcanizer is steam jacketed and is cast in one piece having no packed or bolted joints, thus avoiding any possibility of leaks. Each cavity is fitted with two clamps to adjust bead moulds so that a larger or smaller size casing may be cured in any cavity. The instrument occupies a space of only 27 inches long and 21 inches wide.

One of the lightest portable vulcanizers



BIGGS CO.'S HORIZONTAL VULCANIZER

made is the "National," made by the National Motor Supply Co., of Cleveland, Ohio. This concern's instrument is of the steam-operated type and weighs only four pounds complete. It is made with a hollow brass shell partly filled with water. This water is formed into steam by means of a small alcohol lamp with which the temperature can be regulated perfectly. It has two vulcanizing surfaces, each 3 inches by 5½ inches. The price for a complete National outfit, including all supplies and instructions, is \$12.

The principle feature of the "Minneapolis" vulcanizer, made by the Electric Vulcanizer Co., of Minneapolis, Min., is that it has interchangeable moulds or plates that fit the casing exactly, as well as any size tube. A side plate attachment is also provided which allows for the vulcanizing of a casing close up to the rim. Four models of the "Minneapolis" are

made, ranging in price from \$20 to \$35. Of these the smaller ones are designed to meet the requirements of the private car owner, while the largest is for garages and tire repair stations.

Vulcanizers and repair outfits of every description are made by the Biggs Boiler Works Co., of Akron, Ohio. For tire repair work the Biggs people make a horizontal repair vulcanizer complete with inside overhead track and bottom stands, a vertical or pot vulcanizer, a three cavity repair vulcanizer, an inner tube repair vulcanizer, a combination gas burner and steam generator repair equipment, and various sizes of retreading moulds. The horizontal vulcanizer is shown in the accompanying illustration. These vulcanizers are made in six different sizes and are constructed for 100 pound daily working pressure.

The "Akron-Williams" vulcanizer is the name of the outfit produced by the Williams Foundry & Machine Co., of Akron, Ohio. This is a steam heated instrument, the heat being strictly localized to the repaired part.

This is accomplished by three separate steam chambers in each of the vulcanizer sections being piped up so that the heat may be directed to the repaired part only. If the tread portion is to be vulcanized it is only necessary to open the steam and drain valves connected with the tread chamber. To cure a bead repair the valves connecting with the right or left hand bead as desired are opened. All chambers may be opened simultaneously if a complete section is to be vulcanized. The vulcanizers are made in a variety of sizes, styles and prices, all, retaining, however, this localizing feature.

A portable vulcanizer mounted on roller castors so that it can be pushed from one part of a room to another, is produced by the Haywood Tire & Equipment Co., of Indianapolis, Ind. The heat from this vulcanizer is applied to a tire by means of a heavy steam hose.

This is flexible, but has sufficient strength to resist the required steam pressure needed in vulcanizing. A hot plate is furnished for the repairing of inner tubes. This is permanently attached to the machine, and has sufficient capacity to cure three inner tubes at one application.

PREVENTIVES AND REMEDIES

In making any carbureter adjustment, it is important that the party making such adjustment shall know positively what effect will follow the turning of an adjustment screw in either direction, and also how much effect is to be expected from one or more turns of the screw. If the carbureter is not perfectly understood, it should be studied carefully to learn its action. Adjustments can be made with the muffler cut out or the exhaust pipes taken off, as the exhaust from each cylinder may be observed. If the ignition is right and the compression and valves setting the same on all cylinders, the exhausts should all be the same color. The blue flame exhaust is not the best for power, the mixture is too rich. The purple flame is the correct color. A yellow color shows too weak a mixture, while a black smoke denotes too much fuel.

One of the many causes of lost power is a restricted muffler or exhaust pipe. If a cut-out is fitted to the exhaust system it will be easy to discover, with this open, if the motor seems to develop its full power. If it shows a falling off of power when closed the exhaust pipe and muffler should be cleaned. They should be taken down, soaked in kerosene and washed with gasoline. Be sure, however, to see that the gasoline has been permitted to evaporate before attaching to the car and starting the motor, else a bad explosion may result. They should be permitted to stand all night and in a position as to drain well.

The too generous deposit of tar upon the highways as a dust preventive very often results in the serious damage of an automobile's appearance in the form of tar spots or stains upon the body work. A good remedy for this disfigurement is as follows: First, if the car is dusty, hose it down wherever the tar is sticking, preferably with lukewarm water. Dry off with a leather by dabbling, making no attempts to pass the leather to and fro across the surfaces. Having done this take a piece of some soft material—such as the best wollen waste or linen—and charging it with vaseline or unsalted butter, rub the splashes until they disappear. It will be

found necessary to change the rag frequently. Use plenty of grease. Then wipe off all surplus grease, and wash the car down with lukewarm water and some body soap. On no account leave the car standing with the spots on longer than is necessary, or they will permanently mark the varnish.

This is the season of the year for complaints of overheating of engines. In a number of cases this is no doubt largely due to the employment of the wrong kind of lubricating oil for summer use. For water-cooled motors it is not a bad plan in such cases to use oil recommended for air-cooled motors, as this oil is much thinner in summer when in use, and consequently becomes about the right consistency for the proper amount of feed during the summer months. Of course, as the weather becomes colder the usual brand of lubricating oil should again be used.

While it is bad economy to stint the lubricating oil, it is a very common fault to use a great deal too much. This is not only wasteful, but tends to foul the valves, sparking plugs, and platinum contacts. Further, it has a prejudicial effect in creating a cloud of evil blue smoke. The driver should be careful to close his lubricators when stopping, as otherwise the cloud will be apparent when restarting, even though the lubricators may be correctly adjusted for running.

Keep a sharp watch for breaks in the surface of your tires. A couple of minutes spent in examining the tires every time you bring your car in will prove about the most profitable investment of your time you ever made.

If, when changing speed, the gear misses, depress the clutch pedal again quickly, and the gears will invariably come in at once without causing any jar upon them. When firmly in, the clutch should be let in gently to pick up the momentum the car has lost in the operation.

Automobile Topics

Illustrated.

A WEEKLY JOURNAL DEVOTED TO THE INTERESTS OF
AMERICAN AUTOMOBILISTS

Published by AUTOMOBILE TOPICS (Incorp.)

S. WALLIS MERRIHEW, President and Editor.

THEO. DRAZ, Vice-Pres. and Treas.

W. A. SMITH, Business Manager.

W. E. BALDWIN, Secretary.

Vol. XXII. No. 11.

NEW YORK, JUNE 17, 1911

Price, Ten Cents.

AUTOMOBILE TOPICS is published weekly by Automobile Topics (Incorp.), Terminal Building, 103 Park Avenue (Cor. 41st Street), New York. Subscription price, \$2.00 a year in the United States, and \$4.00 (gold) in advance in Canada or in foreign countries within the Postal Union. Advertising rates may be had on application.

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Cable Address---Autotopics, New York.

Telephones { 5524 } Murray Hill.
 { 5525 }

Getting What You Ask For

It is doubtful whether the substitution evil is as prevalent anywhere as in the manufacture and sale of lubricating oils. The matter is one of very great importance to all owners of automobiles, for upon the proper lubrication of the moving parts of their cars is dependent not only the efficiency but even the life of the latter.

There are plenty of good oils on the market, and every motorist can obtain a suitable brand and use it if he will only take a little trouble. If he is easy-going, however, he will have inferior brands palmed off on him, each proclaimed to be "just as good" as oil of reputable makes. Many subterfuges will be resorted to by unscrupulous garage men in their efforts to add a few pennies to their profits. Some have the affrontery to sell worthless oils under the names of reputable

brands; while others will go a step farther and assert that while there are many brands of oil, practically all come from the same manufacturer.

Most motorists care little for the slight saving that can be effected by purchasing inferior oils; but they are bamboozled into thinking that they are getting their favorite brand, while, as a matter of fact, they are having something entirely different palmed off on them. All this could be avoided if motorists would demand, and see that they get, the oil which they have been accustomed to using.

No tourist remains long unaware of this deep-rooted desire to impose on a transient customer. Garages by the dozen attempt to deceive or thwart him, and too often succeed. The only thing left to do, therefore, is to see that the palming business is not successful.

COMMERCIAL MOTOR VEHICLES

To Remedy Motor Truck Difficulties

Recently there have been numerous complaints made to the agents in New York handling motor trucks that a number of steamship lines will not permit commercial motor vehicles to be run upon the docks and piers of their lines for the purpose of loading and discharging merchandise, and that there is no standard transportation charge made by the ferries landing in New York. These matters were put before the Motor Truck Club and a committee appointed to provide some remedy. Emerson Brooks is chairman of this committee and the other members are A. M. Bingham, Arthur J. Slade and E. Lascaris. In talking of the purpose of the committee, Mr. Brooks said:

At the present time none of the ferry lines charge prices on motor trucks that can be figured on before the trip. By that I mean that the charges vary on different lines, and even on the same lines we find that a different price will be charged in each direction, although the load remains the same. We also find that the same conditions exist when trucks are empty.

Our purpose will be to obtain a schedule that

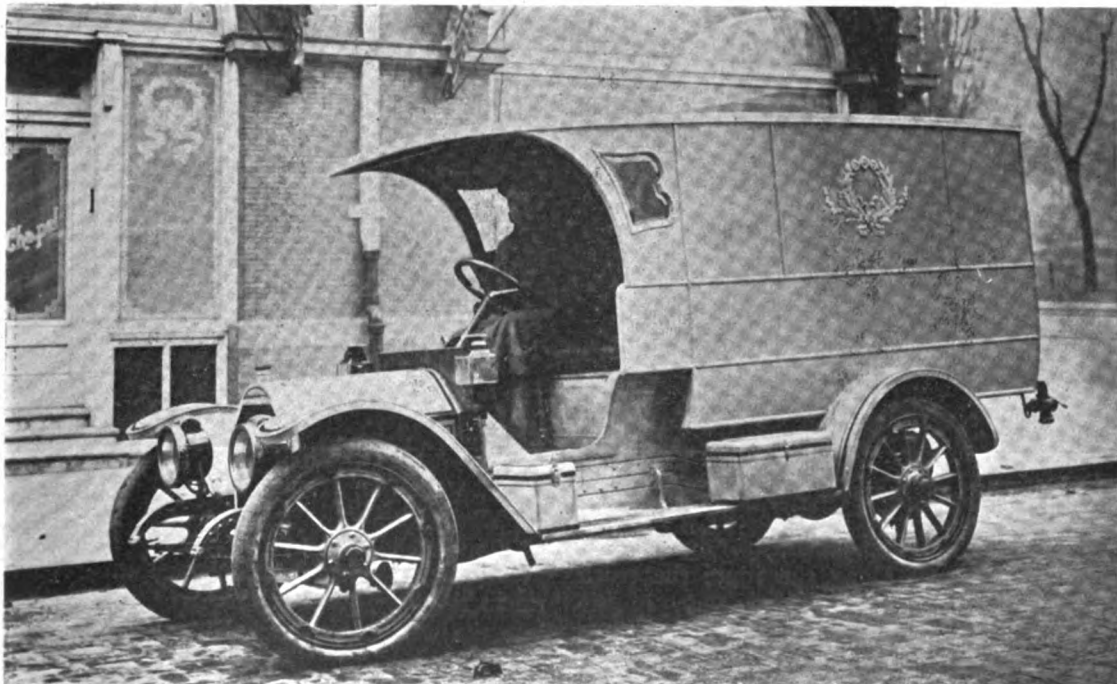
will stand, say, for trucks of certain capacity, and when loaded or empty. There appears to be no good reason why the charges should vary as they do.

With regard to facilities for motor trucks at docks and railroad stations, a difficult task appears to confront us. Under existing conditions much of the advantage gained by quick transportation is lost by delays in line. A motor truck may carry five tons of freight from the warehouse to the dock in a quarter of an hour and then lose more than an hour standing in line with horse drawn vehicles which cannot begin to move so quickly either on the street or in reaching the unloading point on the dock or at the station.

It would be greatly to the advantage of the transportation lines and of tremendous advantage to motor truck users, if the platforms were divided, allowing a certain portion to the power driven trucks and the remainder to the horse drawn vehicles. The motor trucks would easily get along with a third or a quarter of the space allowed to the horse trucks.

Long Run of Worm-drive Truck

Loaded with a full five tons, its rated capacity, a Pierce-Arrow 5-ton truck, worm driven, recently made a trip between New



THE STEARNS 13-30 CHASSIS USED BY AN UNDERTAKING CONCERN IN PORTLAND, ORE.

York and Boston in 20 hours flat. The run was made by way of New Haven, Hartford, Springfield and Worcester. The odometer showed that the distance covered was 242 miles, which would make the average speed maintained 12.1 miles an hour. In all 51.5 gallons of gasoline and 6 pints of lubricating oil were used, which would make the truck's record 4.7 miles to the gallon of gasoline and 40 miles to the pint of oil.

The start was made from New York at 2 o'clock in the morning and at 8:30 A. M. the truck, carrying 20 barrels of lubricating oil, was in New Haven. A stop of an hour was made there and the truck then went on to Hartford, where between four or five hours were spent in demonstrating before the road trip was resumed. Springfield was reached at 7:30 in the evening. At 5:30 the next morning the start for Worcester was made. After an hour there the last leg of the journey was begun and the truck drew in at Boston at 3 P. M., the running time having been exactly 20 hours.

kind completed by a worm driven car in this country. It demonstrated conclusively that motor trucks have now reached a point where the factor of possible mechanical trouble may be disregarded as not a tool was touched to the truck during the run or in the week spent in demonstrating work in Boston.

It was shown that in the event of a tie-up in other means of transportation the motor may be relied on for inter-city hauling, the service being performed at least as quickly and quite probably with more speed than is possible by rail or water freight routes. For instance a load taken on at 5 o'clock Thursday evening at New York may be delivered in Boston at 9 or 10 o'clock Saturday morning.

Motor Truck at Work in Lumber Camp

That the field of the motor vehicle for commercial purposes is practically unlimited was again forcibly demonstrated recently when a New Hampshire concern employed a motor truck to haul lumber from the timber tract to the railroad siding and saw mills. Like the



A SAMPSON TRUCK AT WORK IN NEW HAMPSHIRE TIMBER LANDS

Had there been no demonstrating done at any of the places along the route the truck could have reached Worcester early in the evening of the first day out and the run to Boston completed during the evening or by noon, Saturday.

This was the first long distance tour of any

motor car supplanting the dashing bronco on the Western plains there is something romantic in the way the gasoline truck has struck into the wilderness, hauled immense loads of rough timber over the rugged lumber trails and carried full capacity loads to railroad sidings and saw mills.

In the New Hampshire hills in the vicinity of Nashua there is a lumber industry and a tract of timber land which, if not one of the greatest in New England, is representative of conditions which the motor truck must meet and the results of a recent introduction of Sampson trucks are interesting and significant.

The accompanying photographs of the truck at work show the character of ground which was covered with a four ton load and it will be seen readily that the nature of the work, both as to conditions of travel and loading and unloading, is far different from that ordinarily performed by trucks.

Motor Fire Wagons Very Efficient

"If all the horse-drawn apparatus in Detroit were replaced by gasoline motor vehicles, the saving on pay rolls alone would amount to \$150,000 in a year," said Fire Commissioner W. V. Moore, in a recent interview. "And the horse cannot be compared to the motor in efficiency. I do not believe another piece of horse-drawn apparatus will ever be added to the equipment of the Detroit department. We have a lot of expensive apparatus that we cannot very well discard but some of it can be changed so that motors can be installed for driving it. This is true with particular reference to the ladder trucks.

"The Packard motor squad wagons fill an entirely new field, supplementing the fighting force of the engine companies and often getting to a fire so quickly that a hand extinguisher everts serious loss.

"When the legislature allowed the Detroit department an increase of \$190,000 for its annual expenses, it was expected we would add approximately 190 men. After giving the situation careful study, the commissioners decided to use motor squad wagons, which with their increased speed, can place extra men in any part of the city in a few minutes. Four or at most five of these wagons, with their crews, would add as much efficiency as would 190 men with old style apparatus. We figured the saving at from \$60,000 to \$75,000 a year.

"The first Packard wagon was placed in operation in September, 1908 and it has more than fulfilled our expectations. The second wagon was added last fall."

Wilmington's Automobile Patrol

The introduction of automobile patrol wagons in Wilmington, Del., is assured, the Board of Police Commissioners recently having placed an order with the Pierce-Arrow Motor Car Co., of Buffalo, N. Y., for such a vehicle. It will have a carrying capacity of 12. It is expected to be delivered in about two months. According to President Charles R. Jones of the board, if the machine proves a success at least one more will be purchased.

Motors Displace Horses at Arsenal

A one-ton Mack truck has been purchased for the use of the State Arsenal at Harrisburg, Pa., by the adjutant general's department. The truck will take the place of the wagons pulled by horses in the past.

Milwaukee's New Motor Ambulance

A new Studebaker motor ambulance has just been placed in service by the police department of the city of Milwaukee. In a test run last week, the ambulance stood up better than two ordinary touring cars which accompanied it, carrying checkers and judges.

Boston to Have an Automobile Bank

An automobile bank, on the style of the one displayed at the last Madison Square Garden show, is being built by the Keystone Vehicle Works, of Reading, Pa., for the Bay State Trust Company, of Boston, Mass. The chassis was constructed by the General Vehicle Company, of Long Island, N. Y.

New England Diamond Forces Growing

The Diamond tire forces in New England are growing rapidly with the increase of the use of that brand of tire in that section. The Diamond forces in New England under the direction of E. P. Weber, are now housed in their own new six-story building at 869-871 Boylston Street, Boston, Mass. Every convenience and facility for extending Diamond service to dealers and motorists has been provided. The floor space of the new office is 42,000 square feet, as compared with 700 square feet of floor space in the first office. There are now 80 members in the New England organization, while in the first building there were only 17.

INDUSTRIAL AND TRADE NEWS

Downs Goes With Autocar

Following the recent example of some other New York notables, Merle L. Downs, who, for a number of years, has been secretary of the Show Committee of the A. L. A. M. shows in Madison Square Garden, is about to betake himself to the environs of Philadelphia. He has associated himself with the Autocar Com-



MERLE L. DOWNS

pany, Ardmore, Pa., and will devote a large part of his time to the study and development of the production and transportation end of the business. He shares the universal belief that for many years to come the production of both the pleasure and commercial vehicle will be one of this country's largest and most staple industries.

It is the intention of Mr. Downs to keep in close touch with the Automobile Board of Trade, the new association that has succeeded the A. L. A. M., as he will supervise the de-

tails in connection with the 1912 show, which, notwithstanding reports to the contrary, will be held in the Garden as usual. As a member of the Show Committee of the old association he was largely responsible for the great success of all the shows given. There is probably no man in the business whose personal popularity is greater.

Prior to his connection with the A. L. A. M. and since 1899, Mr. Downs has been prominently connected with the automobile industry, both in manufacturing and selling. As manager of several of the big tours in the past, such as the one to Pittsburg in 1903, to St. Louis in 1904, and the Glidden Tour of 1905, his experience in the general field of operation of automobiles was widened. Much credit is due him for the introduction of systems and ideas which have to do with show matters.

Increase Lozier Stock by \$1,000,000

The capital stock of the Lozier Motor Company was increased from \$2,000,000 to \$3,000,000 at a meeting of the stockholders in Detroit on June 5. The increase authorized by the stockholders consists of \$500,000 in 7 per cent. cumulative preferred stock and an equal amount of additional common stock. The latter will not be issued at present.

The increase in capital stock is for the purpose of providing capital for an enlargement of manufacturing facilities made necessary through the rapidly increasing demand for the Lozier cars and also for the purpose of bringing out and placing upon the market the new line of trucks. It was announced at the meeting that the first two samples of heavy duty trucks would be completed within six weeks and deliveries commenced this fall.

According to the statement of H. A. Lozier, president of the company, the \$500,000 preferred stock will be secured by assets amounting to over five times that amount. Last August the net assets of the company amounted to \$2,000,000. With the additional capital the company's assets will amount to \$2,500,000. The company's earnings for the last year were more than eight times enough to pay the 7 per cent. dividend on the new stock.

The announcement of Lozier trucks has created great interest in the motor world.

The United States Tire Company

was the pioneer in the manufacture of the

DUNLOP TIRE

or Straight Side Tire in America, and have
carried it up to its highest state of perfection

In 1900, when the American Dunlop Company was dissolved, the Hartford Rubber Works Company, one of the four companies now forming the United States Tire Company, first secured the right to make this tire in America.

Thus we gained a tremendous advantage in the matter of improvements and quality over other companies who later began its manufacture.

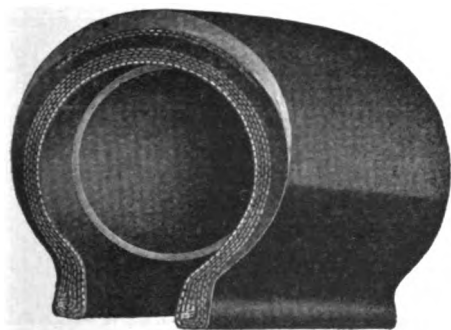
Fully as important to you as a dealer, and to your customers, is the fact that the United States Dunlop Tire to-day combines the most advanced methods of Dunlop Tire Construction with the tire strength and wearing quality to be found nowhere else but in

UNITED STATES TIRES

They Combine the Strength of Four

**Continental
G & J**

**Hartford
Morgan & Wright**



It will be decidedly to the advantage of both your customer and yourself for you to strongly recommend that in buying Dunlop Tires they secure 1st, the most highly perfected Dunlop Tire to be had and 2nd, the strongest tire construction to be had by equipping their cars with

UNITED STATES DUNLOP TIRES

They can be furnished in every size and style of tread

United States Tire Company

Broadway at 58th Street

New York

Loose Sheets of This and Previous Sections May be Obtained by Remitting 10c. for Each

BOSTON to PITTSFIELD, MASS.

A northerly route across Massachusetts is the subject of this week's tour. It leads through a picturesque and interesting country, and, whereas the roads are hilly and in parts mountainous, and where a few rough and sandy, they have been improved until now they compare favorably with any in the State. The details:

From the Park Square go west on Boylston Street, and at farther side of Public Garden turn right into Arlington Street. Turn into left drive of Commonwealth Avenue and then turn right onto Massachusetts Avenue. Cross Charles River and then over R. R. and through Central Square. At fork bear right with trolley past Harvard College grounds. At fork bear left, keeping right of common just beyond over R. R. bridge. To

Arlington (7.1 miles).

Straight ahead across R. R. and through Arlington Heights. Pass East Lexington station on right. At iron fountain in 3-corners turn left and at fork bear right. At next fork again bear right and through 5-corners. To

Concord 19.1 miles).

At library in fork, keep right on State macadam and at fork about half a mile beyond turn right to next fork, at point of three roads, immediately beyond R. R., where take middle road. Cross R. R. twice and to fork, where bear left. At sign, turn left on macadam and at fork keep left to the end of the road, where turn right and to

Harvard (32 miles).

Straight through 4-corners and pass left-hand road. At the end of the road turn right, with left curve just beyond and at fork curve left past street on right. At fork keep right across R. R. into

Ayer (36.7 miles).

Cross R. R. and immediately turn right, and at fork bear left, crossing R. R. and bridge over Nashua River to fork, where keep right. At next fork turn right, keeping slightly left. Fork, keep right and again bear right. At next fork bear left. To Lunenburg, and then to

Fitchburg (49.5 miles).

At City Hall keep left of park with trolley onto River Street, curving left across bridge over Nashua River. Under R. R., curving right with trolley again under R. R. to the end of the road, where curve left with trolley. At fork at end of pavement, bear left with trolley on macadam. At prominent fork bear right and to Westminster. End of road turn right through village. At fork curve left on macadam. To

South Gardner (60.5 miles).

Bear right with trolley across R. R. and at iron trough at 4-corners bear right and across R. R. Cross R. R. bridge and immediately turn left. To Gardner. Turn first left beyond station, on North Main Street, and then turn left on Parker Street. At hotel in fork bear right, leaving trolley and then direct through Otter River. To

Baldwinsville (67.2 miles).

Bear left at fork and across iron bridge.

At fork just beyond bridge, turn right upon Maple Street, avoiding left-hand road just beyond. Turn left and at fork 2.6 miles beyond bear right and follow trolley tracks on macadam, bearing right onto Main Street of Athol Center. Turn left with trolley on School Street and curve right under R. R. At end of street turn left onto Main Street of

Athol (77 miles).

Turn left at fork just beyond bridge over Miller River and again left at fork a short distance beyond. Over R. R. bridge and follow trolley to Orange. At North Main Street follow direct road through Wendell to Erving. At end of macadam bear right up grade, avoiding right road. At end of road turn left across R. R. to second cross-roads, where turn left over bridge over Miller River to

Millers Falls (97.5 miles).

Turn right at 4-corners, and, meeting trolley, turn right up grade. At fork, bear right on macadam and descend long steep grade into Third Street of Turners Falls. Cross Main Street and at end of street turn left. Turn next right across R. R., canal bridge and suspension bridge over Millers River, curving left just beyond. To

Greenfield (100.7 miles).

Continue west on Main Street and straight ahead, where trolley turns right. At fork bear right across bridge over Green River. At 4-corners at end of bridge turn right, and right at next fork. At fork, three-quarter miles beyond, bear left and repeat performance at next fork. Across bridge and through Shelburne. At fork just beyond library, bear right. Turn left at sign "Charlemont" and over Deerfield River into

Shelburne Falls (110.5 miles).

At the end of the road turn right and at fork bear right. Fork, curve left on macadam under R. R. Turn right over R. R. bridge and then through

Charlemont (118.4 miles).

At fork bear left, pass Zoar station on left and at fork bear left along R. R. Cross bridge over R. R., curving right. At 4-corners turn left and immediately bear right. Fork, bear right over Hoosac Mountain. Pass right-hand road at top of mountain. Descend steep grade and at fork keep left into Union Street. Over iron bridge, and at end of street turn left with trolley and right at fork to 4-corners, where bear right into

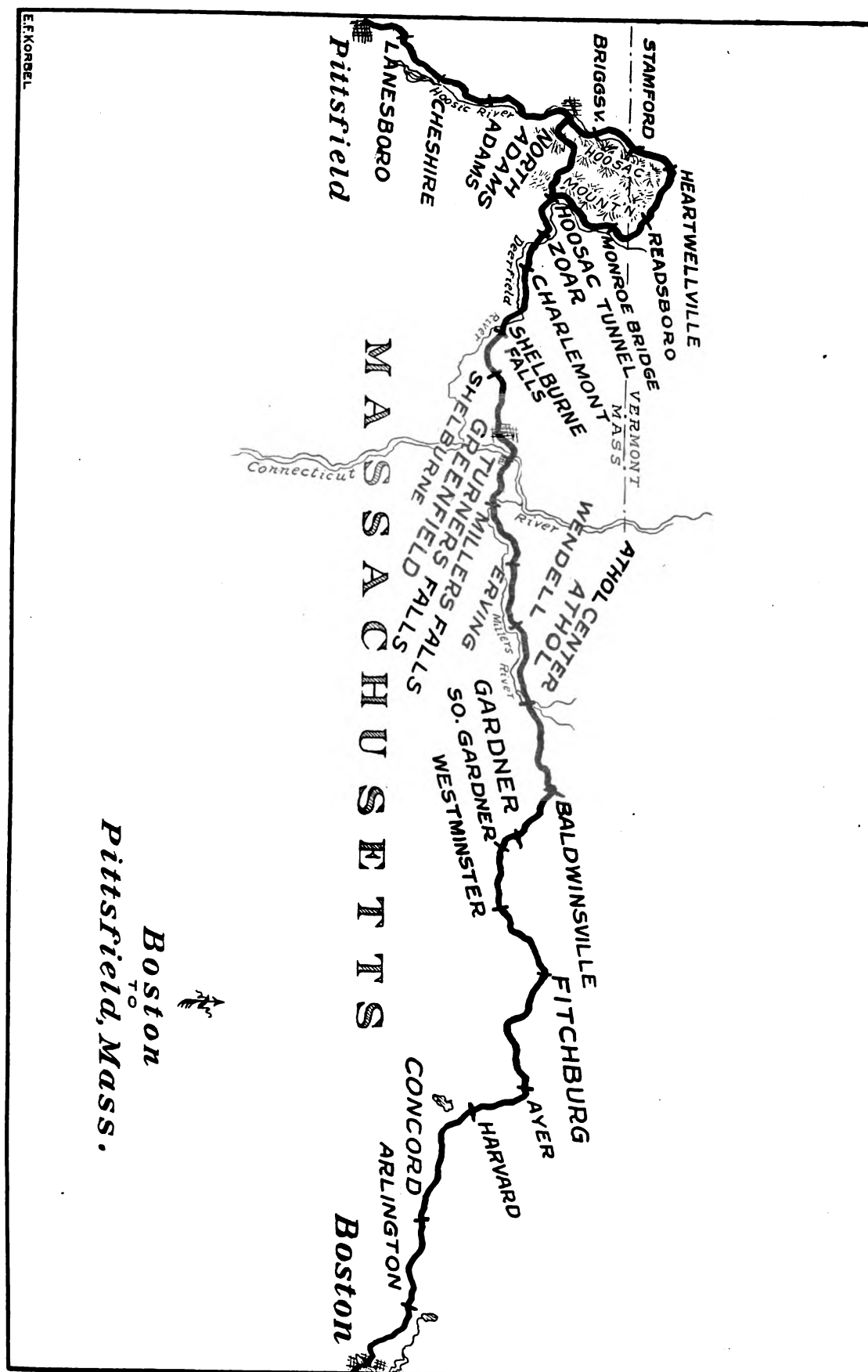
North Adams (137 miles).

Continue to intersection of Main and Ashland Streets, where turn left and straight ahead. Bear right at monument in small triangle. Under R. R. and at sign turn right across trolley. At end of the road turn left. At 4-corners turn left past Renfrew station into Adams. Cross R. R. and iron bridge and then right. Over R. R. bridge. Where trolley turns left, keep straight ahead past white church on left, joining tracks beyond. At fork bear right with trolley and at the end of the road turn right. Into

Lanesboro (153.4 miles).

At the end of the road turn left with trolley and pass Pontoosuc Lake. At fork bear right with Wahconah Street, curving right over bridge and immediately left beyond.

Pittsfield (158.7 miles).



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Prices same as any standard make of tire---1500 more guaranteed miles---saving of 30% in guaranteed tire costs---equitable adjustments.

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Automobile Motors and Mechanism

BY

THOMAS H. RUSSELL, M.E., LL.B.

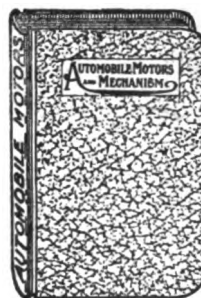
AUTHOR OF

"Automobile Driving Self-Taught"

"Ignition, Timing and Valve Setting"

"Motor Boats: Construction and Operation"

CONTENTS



The internal combustion engine—Principles and construction—Production of the fuel mixture—Function of the carburetor—The cycle of operation—Cylinders, pistons and rings—Shafts and bearings—Ignition apparatus—Single and multi-cylinder engines—The two-cycle engine—Valves and their functions—Silencing the exhaust—Engine hints and tips—A typical modern motor—Detailed description of construction—Governor and governors—The centrifugal governor—Throttle valves—Governor and control—The hit-or-miss governor—Carburetors—The float-feed principle—The float chamber and jet—Various types of modern construction—Quality of mixture Flooding the carburetor—Carburetor troubles and adjustments, etc.—Transmission mechanism—The clutch—Gear or gearing—Shafts and their functions—Lubrication and lubricators—Pumps and their purposes—Motor misfiring, causes and remedies—Noises in the motor, causes and remedies—Motor overheating, causes and remedies—Electric motors—Principles and operation—Steam cars—The engine, generator, reverse gear, etc.

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ADDRESS

AUTOMOBILE TOPICS

103 Park Ave., New York

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Mr. Lozier stated that the company had been doing experimental work on a truck for two and one-half years, having begun this work in the Plattsburg factory. In the last few months the Lozier engineers have been operating and studying the best European trucks manufactured. The new truck incorporates all the good ideas of trucks now on the market, and many features original with the Lozier engineers. Mr. Lozier said to the stockholders that not a touring car part was used in the new truck. Every part has been especially designed for heavy work.

Truffault-Hartford Co. Wins Long Suit

The United States Circuit Court has, after nearly three years of litigation, sustained the Truffault-Hartford patent covering rotary friction shock absorbers broadly, and has directed that a perpetual injunction be issued against Harold J. Moore and Ruth H. Moore (doing business under the name of John Moore & Co.), the New York agents for the Brush car, enjoining them from selling this car with the shock absorber with which it has been equipped.

In the summer of 1910 the case was brought on for final hearing before his Honor Judge Hand, and after a careful consideration of the evidence, Judge Hand held the patent to be valid and infringed. Thereafter, however, defendants obtained permission to take additional proofs, as to certain matters which they alleged would render the patent invalid, and the decision just rendered, after a careful consideration of these proofs, again decided in favor of the patent and directs that an injunction be issued and an accounting rendered.

It has always been understood that the Truffault-Hartford patent was a pioneer one and that the numerous imitations subsequently put upon the market were infringements. The decision again the Brush car fully confirms this opinion.

The Quality of Courtney Tires

Although the Courtney tire has been on the market for the past three years, it has heretofore been sold almost entirely through the recommendation of those who have used it. This remarkable result has been achieved in consequence of the remarkable design and construction of the tire.

Into the Courtney goes only the very finest selected long fibre Sea Island cotton, loosely woven, so that the rubber is literally soaked through it, and the finished tire is nearer a pure rubber tire than any on the market today. More plies of this high-grade fabric goes into the Courtney than into any other tire known, it is claimed. Also is used the choicest fine Para rubber and skilled labor.

The toe of the tire is so shaped that under the running pressure it flexes toward the center and not close to the rim, thus absolutely preventing rim-cutting and pinching of the tube under any and all conditions.

The Courtney anti-skid tire holds on any kind of pavement, wet or dry, snow or ice, and is claimed to be more effective than chains. The square blocks and circular depression (forming a suction cup) keeps the car from skidding in any direction. These depressions will not fill up with mud, snow or ice, and on city streets of wet macadam they will positively hold at all times.

Severe Test of a New Model

With the spectacular drive in a 1912 Packard "Six" through the wilds of the Jackson Hole country in Wyoming and neighboring States by President H. B. Joy and party came the climax of test runs which were given the new "Six," a total mileage in excess of 51,000. This figure is an impressive illustration of what is required of a Packard car before a new model is placed on the market, each successive year.

Experience has shown that a motor car might run for a year over ordinary country roads and fail at the first test when pitted against the strains of a mountain trail or driven under other untoward conditions. This is why the Packard Motor Car Company established camps in the Alleghenies several seasons ago.

This is why Packard engineering and experimental work includes continuous driving of all new cars and never ending trial of all contemplated improvements. Each season cars of future manufacture are driven, driven, driven—east, west—everywhere. Test runs over the rock-strewn mountain roads, long dashes over the plains, continuous abusive driving, day in and day out, try the stamina of the car as no actual usage ever tries it.

The testing of the 1912 "Six," which is the

product of several years of design and experimental work, based on the established Packard principles of design, got into full swing early last summer when the engineers and executives took onto the road the completed cars which represented the whole structure that had been built up unit by unit, month by month, test by test in the previous experimental work.

The Coronation of an American King

While all Great Britain and practically every other country in the world is interested in the ceremonies attending the coronation of King George V and Queen Mary, of England, shortly, automobilists are still discuss-



"BOB" BURMAN'S SPEED CROWN

ing a similar celebration that occurred on May 30 at the Indianapolis Speedway. This was the crowning of "Wild Bob" Burman as Speed King in recognition of his wonderful speed record of 141.73 miles an hour on the beach at Daytona, Fla., on April 23.

This is the fastest ever traveled by man and in attaining this speed Burman broke the world's records for kilometer, mile and two miles. The crown was donated by H. S. Firestone, President of The Firestone Tire

& Rubber Co., whose tires Burman used on his Blitzen Benz in making this remarkable speed. The crown itself is a copy of the one to be sued at the coronation of King George V and is a marvel of the goldsmith's art.

Regals in Non-stop Run

Realizing the value of the endurance run as a demonstration of an automobile's worth, when the opportunity presented itself recently for a little cross-country try-out of Regal cars the makers were not at all backward about putting their cars to the test. The trip referred to was taken about three weeks ago, three Regal "20" roadsters being sent on a non-stop run from Pittsburg to Indianapolis, a distance of 360 miles.

The cars left Pittsburg on Sunday morning at 5:30 a. m., and arrived at their destination at 8:10 p. m., the best previous time of eighteen hours for a run between the two cities having been lowered by almost six hours. The actual running time for the Regal cars was twelve hours and forty minutes, an average speed of thirty miles an hour.

In addition to being a creditable non-stop run the test showed the Regals to be very economical in point of operation cost. The total gasoline and oil expense of running each car 360 miles was only \$6.—considerably less than two cents per mile.

Another American Motors Co. Factory

The American Motors Company, Indianapolis, Ind., has secured another factory in Indianapolis where they will manufacture a four-passenger underslung American "30," selling at \$2,250 and a light underslung roadster selling at \$1,250. The company will continue to manufacture the American underslung "50" in the old plant.

Odd Appearance of Goodyear Tread

A non-skid tire having rather an unusual appearance is a tread recently put out by the Goodyear Tire & Rubber Co. The rubber in the body of this new tire is made of a dark color, but the powdered compounds mixed into the tread to give its wear resisting power turn it almost white so that the finished tire with the dark body and white tread is somewhat suggestive of a chocolate cake with

white icing. The surface of this tread is covered with small diamond shaped projections running lengthwise of the tire. These projections are slightly wider at the base where they join the tire, it being claimed that this makes them wear longer and prevents them from breaking off.

A New Mosler Spark Plug

To meet competition in spark plugs, which has for a long time been very keen, A. R. Mosler & Co. have placed on the market the "Triumph Competitive Plug," this acceding to the requests of jobbers and dealers in the Mosler specialties. The Mosler Company thus puts them in a position to meet the competition in cheap plugs referred to, which has sprung up all over the country.

The "Triumph" is an open end porcelain plug. In order to introduce it to owners of cars Mosler & Co. are offering to furnish three of these "Triumph" plugs to any owner for \$1. This offer is only good until August 1.

After bringing out the Mosler "Triumph" spark plug, so many of the customers asked for a mica plug to compete with the very cheap mica plugs on the market that Mosler & Co. are offering the "B-M-A" competitive mica plug also. When asked what B-M-A meant, Mr. Mosler in his usual vivacious way answered, "Beat-M-All." The price on this mica plug is seventy-five cents each retail.

Both the "Triumph" and the "B-M-A" plugs are manufactured in the same careful manner as the "Spit Fire." These plugs are not supposed to be as good as the "Spit Fire" plug, but are equal to any other plug on the market for the price, and better than a great many of them.

Those dealers and jobbers who are interested in handling spark plugs of one manufacture, will do well to write A. R. Mosler & Co., for special prices that they have arranged to give the trade.

Long Run of Old "No. 2" Hudson

As evidence that the veteran Hudson cars are "still in the ring," the second car ever turned out by the Hudson people arrived in Madison, Wis., a few days ago after a 158-mile trip from Aurora, Wis. Old "No. 2" made the run in eight hours and it finished

in splendid shape despite the fact that the trip had been made through heavy mud and rain. This car is owned by Dr. Dreyer, of Madison, and he says it has been driven winter and summer since its purchase three years ago.

Additions to Overland Forces

General Sales and Advertising Manager G. W. Bennett, of the Willys-Overland Company, has added to his corps of assistants. C. S. Jameson, for over four years sales manager for the Stoddard Dayton Motor Car Company, becomes assistant sales manager, and R. J. Buell, formerly advertising manager for the Regal Motor Car Company, of Detroit, joins the Overland forces as assistant advertising manager.

To Manufacture Stutz Cars

The Stutz car, which was built by the Stutz Auto Parts Co., of Indianapolis, Ind., for the 500-mile race on May 30, is to be built and marketed by a company which will be known as the Ideal Motor Car Company. A three-story factory building has been leased in North Capitol Avenue, Indianapolis. Harry Stutz will be designer and W. D. Myers sales manager of the concern. Three models, a roadster and four and five passenger four door touring cars will be made.

W. H. Stillwell with J. S. Bretz Co.

The engineering and selling force of the J. S. Bretz Company, importers of accessories, has a recent addition in the person of W. H. Stillwell, E.E., who for the last year has been connected with the Westinghouse Electric and Manufacturing Company. Mr. Stillwell will make his headquarters at the New York office of the Bretz Company, looking after the trade in Cleveland and all the territory east of that city, included in the Middle and New England States.

Evangelist Will Use a Car

Among the recent purchasers of Hudson "33" touring cars is Billy Sunday, the noted evangelist and reformed baseball player. He is to use the car in traveling from city to city in each of which he stays from four to six weeks.

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A Strenuous Wilderness Trip in a Truck

The details of what was probably one of the most strenuous motoring trips undertaken in this country were made public recently by A. L. Westgard, who piloted a loaded truck across the great American wilderness of the southwest, from Denver to Los Angeles, Cal. The vehicle to make the hazardous trip was a seven-ton Saurer and Mr. Westgard declares that it was the toughest experience in pioneering he ever encountered. While Mr. Westgard returned to New York after the truck was safe in Los Angeles, the journey of the vehicle was by no means at an end. Los Angeles was reached on May 8 and on the 19th a start was made for San Francisco, the truck being under the pilotage of A. C. Thompson. The Golden Gate city was reached on May 26 after an uneventful trip. It is intended to ship the truck to Denver or Pueblo by rail and then start on an Eastward trip, probably reaching Chicago about July 5, and New York by the early part of the following month. In talking of his experience, Mr. Westgard said:

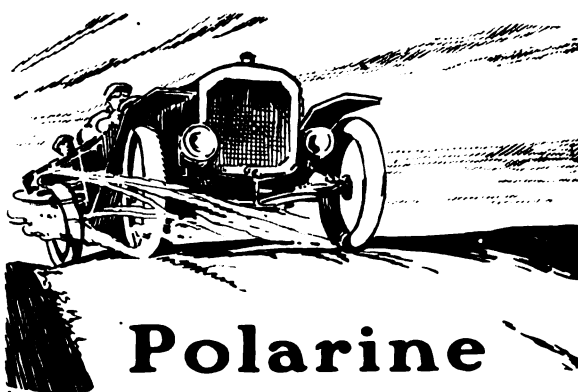
We undertook the trip, not so much to make a time record as to prove that it was possible to get a truck across that unbroken country at all. I had no interest in it save curiosity and because the Saurer people retained me on account of my having just completed the same route in a touring car. Last fall I agreed to make the trip if it could be done in six weeks, but after I once got under way I wouldn't quit, and ultimately used up twice that time in the journey. I gained a lot of valuable experience, though, and I believe I accomplished a deal of good for the cause of good roads. It also proved to the miners of that region that automobile trucks are practical for their peculiar needs in hauling long distances over rough country to points of shipment on railroads, that the development of much valuable property does not depend on the building of expensive railroad branches.

I found that the good roads movement had taken a firm hold on public sentiment in that section. In New Mexico I found that 78 miles of good roads have been built since I went through there last fall. I had long talks with Governor Mills, of New Mexico, and Governor Sloan, of Arizona, and I think they will lend a hand in trying to improve a main thoroughfare across the continent by the southern route. As it is, I found almost half of the 1,500-mile journey over tolerably decent highways and much of the rest of it available for travel by a touring car. But when you come to put a heavily loaded truck over it—our car and its load weighed 14,000 pounds—it's a different story. I had no idea what trouble we would encounter, yet the marvelous thing about it is that the truck didn't experience a single break, and all the adjustment we made dur-



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ENVELOPES AND TUBES.
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CANS AT FORTY CENTS
EACH**

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If you want to avoid trouble on the hills pay special attention to your oil.

Polarine Oil materially lessens the load on the engine.

It keeps its body and feeds uniformly under all running conditions.

It does not carbonize spark-plugs or valves.

What Polarine Oil means to the motor, Polarine Transmission Lubricants and Polarine Greases mean to the other wearing surfaces of your car—efficient uniform lubrication.

Send for the Polarine Booklet to the nearest agency of the

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(Incorporated)

THE entire automobile map has been changed. You look in vain now to find any first-rank maker advocating fours as better than Sixes. That's because the

WINTON SIX

has so completely made good on its claims of Six superiority that no intelligent maker has the hardihood to deny the fact. It is worth while to have a car able to make good. Send for catalog and upkeep book.

THE WINTON MOTOR CAR. CO., 423 Berea Road, Cleveland, O.

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COURTNEY
Anti-Skid **TIRES**

Do not SLIP on any kind of pavement, wet or dry
Do away with chains entirely
Easy riding Long life
The only tires that can be retreaded ANTI-SKID

COUTNEY TIRE and RUBBER COMPANY
1976 Broadway, New York City

"STAR" TIRE CASE
(PATENTED)

HOLDS ALL TOURING NEEDS
Made of pressed steel. Carries two spare shoes, six inner tubes, tools and spare parts. Thick, dust and waterproof—opened and locked in a minute. Fits any car, side or running board, or on rear, or on top. Does not rattle. Price \$25, f. o. b. Factory. Sold by entire trade. Send for Catalogue No. 3.

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Sole Manufacturers of
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Newark, N. J.

SIMPLEX
ISOTTA and S. G. V.
Complete Cars
LIGHT WEIGHT ALUMINUM BODIES
"Known all over the world as the Best"
Write for Catalogue

MONOGRAM OIL

None So Good, Says Lincoln Beachey

"FOR the past eight years I have used your Monogram Oils in the engines of Motorcycles, Automobiles, Dirigible Balloons and Aeroplanes. I have also tried other oils, but none seem to be of as good a quality or as satisfactory as Monogram, and I have instructed my mechanics to use no other oils but Monogram in my Aeroplane Engine.
"Was glad to find plenty of your oil here in Cuba.
"Havana, Cuba, Feb. 11, 1911."

"Best for YOUR engine"

NEW YORK LUBRICATING OIL CO.
CONSOLIDATED WITH
COLUMBIA LUBRICANTS CO. OF N. Y.
116 Broad Street New York City
For Sale by First Class Dealers

ing the tire was to tighten up one or two of the rods which worked a little loose.

We had intended starting from Kansas, but the roads were so very soft that we concluded to leave that stretch for the return, and so started from Denver. The truck we used was a regular demonstration car, which had been at the Chicago agency of the Saurer Company and was shipped to Denver for the start. I had with me A. C. Thompson, son of the Saurer Chicago agent; George McLean, of New York and a youngster we hired in Denver. We carried a load of supplies, including four barrels of gasoline, a barrel of oil, regular camp outfit and a lot of heavy oak plank, which we knew would be necessary in working the truck over sand and muddy ground. It is significant of what we got into to note that when we reached Los Angeles there wasn't more than a fragment of any one of these planks left; only a few splinters.

In all we ran 1,535 miles and it took us 68 days. Thirteen days we concluded it was a saving of time to lay off and wait for better roads rather than to buck through them. At times we ran through—or rather hauled through—water five feet deep. I think the worst patch of traveling we encountered was at a point where the road was like porridge, and everyone declared we'd never get through. In a stretch of seven-tenths of a mile it took six men and eight mules 12 hours and 15 minutes to get across the morass, and she went down to the axles eight times in a distance of 300 feet. I don't know what that truck was made of, but she took the worst racking imaginable without springing a particle, that I could see. At one point we were 132 miles from the railroad and within 75 miles of one for almost half of our trip. We reached an altitude of 10,000 feet and dropped down 197 feet below sea level in the Salton Sea region. We ran in temperature of 130 degrees at noon, and nights found the thermometer down to 20, so that it was prudent for us to drain the radiators to keep them from freezing. We camped 26 nights, but the rest of the time made towns and had fair hotel accommodations.

I think the trip did a great deal for the cause of motor trucks, proving to the miners that a good machine has an endurance they had not believed. It is not uncommon for miners to haul their output 90 to 150 miles by six-mule teams, and at that half the load is needed to carry food for the mules and men for twelve days or more. With a decent load an auto truck would make the distance in two days without losing half its freighting capacity. I believe authorities and promoters of the industries of that region have seen a new force for the upbuilding of the country. As for myself, I know that we accomplished much for good roads, and my data will be of great value to the office of public roads of the National Government, whose interests I served on the trip. As for the truck folks, they certainly have established a new record for endurance, for not a bolt or nut sprung in that car, the tires show only a little wear on the outer edge, and I consider it in as fit condition for work as the day it started.

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Good Roads Work in Kansas

Under the new State road law now in force there is likely to be a great improvement in the roads of Kansas during the coming year, as provisions have been made whereby the counties will have direct charge of the work on all of the main roads established as county highways. The State road law also gives the townships more authority for the improvement of their roads. A set of road dragging instructions is being sent to all of the township road officials by State Highway Inspector Gearheart. The instructions are as follows:

Make a light drag, which is hauled over the road at an angle of about 45 degrees, so that a small amount of earth is pushed to the center of the road.

Drive the team at a walk.

Ride on the drag. Do not walk along the side.

Begin at one side of the road or wheel track, returning on the opposite side.

Drag the road as soon after every rain as possible, but not when the mud is in such condition as to stick to the drag.

Do not drag a dry road.

Drag whenever possible at all seasons of the year. If a road is dragged immediately before a cold spell it will freeze in a smooth condition.

The width of the traveled road to be maintained by the drag should be from sixteen to twenty feet. First drag a little more than the width of a single track, then gradually increase until the desired width is obtained.

Always drag a little earth to the center of the road until it is raised from ten to twelve inches above the edge of the traveled way.

If the drag cuts too much shorten the hitch.

The amount of earth that the drag will carry along can be very considerably controlled by the driver accordingly as he stands near the cutting edge or away from it.

When the roads are first dragged after a very muddy spell the wagon should drive if possible to one side until the road has a chance to freeze or partially dry out.

Dragging reduces the mud in wet weather and the dust in dry weather. The best results from dragging are obtained only by repeated applications. Remember that constant attention is necessary to maintain an earth road in its best condition.

It costs from \$4 to \$10 a mile per year to drag a road, depending upon the particular road, the soil and rainfall, and the amount of traffic.

Pass Many Good Roads Bills

The final link in a chain of highways threading the entire southern tier of counties in New York State was welded on June 5, when the New York Senate passed a bill introduced by Jesse S. Phillips, which directs the expenditure of \$500,000 of the highway bond issue



THE 1911 MERCER RACEABOUT



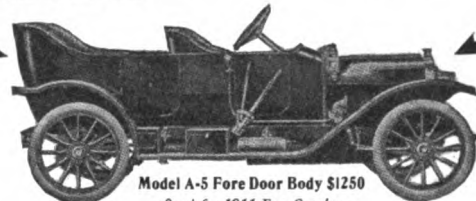
The only strictly high speed car built in America. 300 cubic inch displacement. A mile in 51 seconds guaranteed.

MERCER AUTOMOBILE CO. Trenton, N. J.

Mc-I-N-T-Y-R-E Spells "Satisfaction"

THE CAR THAT CARRIES CONVICTION.

A McINTYRE AGENCY is a real business asset for any Dealer. The great and rapidly increasing demand for the McINTYRE LINE is an absolute assurance of large profits to the Agent who is enterprising enough to secure a McINTYRE CONTRACT to handle the "Car that Carries Conviction."

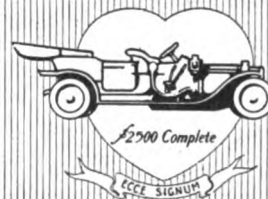


Model A-5 Fore Door Body \$1250

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W. H. McINTYRE CO., Auburn, Ind.

CARHARTT CARS



A realization of the ideal in car harmony


CARHARTT AUTOMOBILE SALES COMPANY
CARHARTT BUILDING 1969 BROADWAY NEW YORK

Still the Only Advanced Car in Three Years

HUDSON "33"

HUDSON MOTOR CAR COMPANY

7030 Jefferson Ave., Detroit



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 Brush Stoddard-Dayton
 Maxwell Columbia
 Sampson 35 Brush Delivery
 61st St. and Broadway New York City Sampson Freight and Delivery Motors

Dixon's Graphite Motor Lubricants
 Help your car to keep healthy—no frictional disorders. Booklet No. 11 free.
JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.



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 SPARK PLUGS BATTERY BOXES
 TIRE GRIPS WRENCH SETS
 Send for Catalogue R
THE BECK COMPANY, Rockville Centre, N.Y.

THE EDISON STORAGE BATTERY
 is radically different from all other storage batteries. The result is a battery of double the capacity of the lead battery. Send for catalog.
Edison Storage Battery Co., 110 Lakeside Ave., Orange, N. J.

CLASSIFIED ADVERTISEMENTS

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money for the immediate construction of a State road from Hornell to Olean. The first link in the chain of proposed improved roads is the bill of Senator Murtaugh already signed by the Governor, which connects Binghamton and Elmira. The second link, already passed, but not yet signed, the bill of Dr. Seeley, of Chemung, connects Elmira and Hornell. Mr. Phillips' bill sends the route westward to Olean.

Dr. Seeley's road runs by way of Corning, Addison and Hornell. There is some objection to the route in Chemung. Mr. Phillips' road is designed to take in Andover, Wellsville, Belmont, Friendship and Cuba. If both bills are signed by the Governor the southern tier counties within two years will have one of the finest highways in the State. The three bills together contemplate the immediate expenditure in that section of \$2,150,000. The Murtaugh bill alone calls for \$1,000,000. Dr. Seeley's bill calls for \$650,000.

INCORPORATIONS.

Detroit, Mich.—Detroit Auto Dash Company, with \$10,000 capital. Incorporators: Stephen V. Miller, Herbert C. Whitney, George C. Johnston, John M. Schenk, Thomas Sherwood, Fred A. Fry, A. L. Bailey, Brock C. Eby, William H. Tisonier, Henry B. Aurand, Ferdinand C. Kelton and David Coorey. To manufacture dashes and other automobile parts.

Newark, N. J.—H. K. B. Mfg. Co., with \$200,000 capital. Incorporators: A. F. Hensler, C. F. Beers, J. Hensler and F. H. Koerner. To manufacture car parts, bodies, trucks, springs, wheels, etc.

New York, N. Y.—Attebury Commercial Truck Company, with \$25,000 capital. Incorporators: George Malraison and Jerome Eisemann. To manufacture motor trucks.

New York, N. Y.—Twenty-fifth Street Garage Company, with \$50,000 capital. Incorporators: Henry Hencken, Edward L. Larkin and Thomas A. Larkin.

Chicago, Ill.—American Starter & Carburetor Mfg. Co., with \$25,000 capital. Incorporators: James B. Dibelka, Frank Breska and Hayes McKinney. To manufacture and deal in carburetors, automobile starting devices, etc.

Louisville, Ky.—The Crescent Hill Auto Supply Company, with \$500 capital. Incorporators: John M. Banta, E. T. Adams and J. D. Knadler.

New York, N. Y.—Boston Delivery Supervision Co., with \$100,000 capital. Incorporators: J. C. Yeager, D. DeF. Smith and M. E. Smith. To manufacture vehicle speed registering devices, stop registers, etc.

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Vincennes, Ind.—The Auto Supply Co., with \$10,000 capital. Incorporators: B. C. Fuller, I. H. A. Twietmeyer and E. H. Koenig. To deal in automobile supplies and accessories.

East Moline, Ill.—Black Hawk Motor Co., with \$50,000 capital. Incorporators: R. W. Gould, H. S. Dickinson and A. W. Mitchell. To manufacture motors, motorcycles, etc.

Washington, D. C.—International Mfg. Co., with \$100,000 capital. Incorporators: John Ebersole, John B. Flick, Henry F. M. Cunningham, Ross C. Barrett and Howard P. Meldrum. To manufacture automobiles and other vehicles.

Detroit, Mich.—Wentworth Mfg. Co., with \$10,000 capital. Incorporators: Eugene N. Wentworth, Alfred Hedman, Ira W. Jones, Lucia C. Jones and George C. Wentworth. To manufacture automobile parts.

Buffalo, N. Y.—Simpson & Gibaud Co., with \$2,500 capital. Incorporators: Henry R. Simpson, M. E. Simpson and Louis Gibaud. To conduct an automobile business.

Waterloo, N. Y.—Nokik Crank Sales Company, with \$50,000 capital. Incorporators: John Harker, Joseph L. Dougherty and Charles E. Ramirez. To manufacture safety cranks for motors, etc.

New York, N. Y.—Atlantic Motor Truck Company, with \$10,000 capital. Incorporators: Walter A. Ramsey, Abraham S. Arnold and Walter F. Magill. To deal in motor trucks.

Penn Yan, N. Y.—Wagener Brothers Automobile Exchange, with \$10,000 capital. Incorporators: H. Allen Wagener, Mary C. Carroll and John A. Underwood.

Dallas, Texas.—The White Motor Co., with \$25,000 capital. Incorporators: F. M. Etheridge, George A. Urquhart and Walter C. White. To deal in automobiles.

New York, N. Y.—University Garage, with \$120,000 capital. Incorporators: Carlos R. Duque, George T. Green and Hjalmar H. Boyesen.

Warren, Ohio.—The Ohio Universal Truck Co., with \$200,000 capital. Incorporators: George T. Fillius, Z. F. Craver, O. R. Grimmesey, P. W. Balcom and W. H. Hostetter. To manufacture and deal in commercial and pleasure vehicles.

Automobile Calendar

June 16 and 17.—Track Races of the Milwaukee Automobile Dealers' Association in Milwaukee, Wis.

June 17.—Race Meet at the Guttenburg Track in North Bergen, N. J., under the auspices of the Guttenburg Motordrome Racing Association.

June 17.—Hill Climb, under the auspices of the Upper Westchester Auto Club at Ossining, N. Y.

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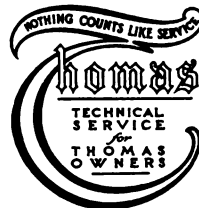
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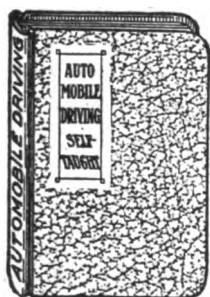
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AUTHOR OF

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AUTOMOBILE TOPICS

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June 17.—Hill Climb, under the auspices of the Maine Auto Association, at Portland, Me.

June 17.—Annual Hill Climb at Ossining, N. Y., under the auspices of the Upper Westchester Automobile Club.

June 18.—Start of the Paris Journal 1,000-mile aeroplane race through Paris, Liege, Utrecht, Brussels and London.

June 19.—Reliability Run from Des Moines, Iowa, under the management of the Hyperion Field & Motor Club.

June 20.—Reliability Run of the Automobile Club of St. Louis.

June 20, 21, 22 and 23.—Annual Convention of the National Gas and Gasolene Engine Trades Association in the Hotel Ponchartrain, Detroit, Mich.

June 20-22.—Aviation Meet at Buffalo, N. Y.

June 25.—Light car race for the Coupe des Voitures over the Boulogne-Sur-Mer course, France.

July ...—Track Races at Amarilla, Texas, under the auspices of the Panhandle Auto Fair Association.

July 1.—Hill Climb of the Automobile Club of Maryland, in Baltimore.

July 1.—Third Annual New York-Albany Motor Boat Race, under the auspices of the New York Motor Boat Club.

July 1, 2 and 3.—The Catskill Reliability Road and Hill Climbing Contest. Start to be made in New York. Under the management of the Motor Contest Association.

July 3 and 4.—Race Meet at the Brighton Beach Track, under the management of E. A. Moross.

July 4.—Race Meet at Pottsville, Pa., under the auspices of the Schuylkill County Centennial Association.

July 4.—Track Races, under the auspices of the Automobile Club of Kansas City, Mo., at Kansas City.

July 4.—Reliability Run, starting from St. Louis, under the direction of the Missouri State Automobile Association.

July 4.—Track Race Meet at Detroit, under the auspices of the Wolverine Automobile Club.

July 4.—Track Race Meet at the Denver Speedway, under the auspices of the Denver Motor Club.

July 4.—Road Race at Bakerfield, Cal., under the auspices of the Kern County Merchants Association.

July 4, 5 and 6.—Annual Races of the Mississippi Valley Power Boat Association at Dubuque, Ia.

July 4 to 19.—Prince Henry Tour through Germany and Great Britain.

July 5-22.—Fourth Canadian Competition for Agricultural Motors at Winnipeg, Can.

July 7.—Track Race Meet at Taylor, Tex., under the auspices of the Taylor Automobile Club.

July 8 or 15.—Track Race Meet at the Belmont Driving Park in Philadelphia, under the auspices of the Norristown Automobile Club.

July 10.—Start of the Elimination National Balloon Race from Kansas City, Mo.

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- July 12.—Start of the Indiana Automobile Manufacturers' Four-State Indiana Car Tour from Indianapolis.
- July 14.—Reliability Contest for Commercial Vehicles, under the auspices of the Quaker City Motor Club.
- July 14-17.—Second Annual Reliability Tour of the Wisconsin State Automobile Association, starting from Milwaukee.
- July 14.—Start of the Marblehead Motor Boat Race from Huntington Harbor, L. I.
- July 15.—Annual Hill Climb at Dead Horse Hill, Worcester, Mass., under the auspices of the Worcester Auto Club.
- July 17, 18 and 19.—Reliability Run, under the auspices of the Cleveland News.
- July 22.—Start of the Motor Boat Race for the Reciprocity Cup, from Gravesend to Halifax, N. S.
- July 22-August 5.—Thousand-mile Aeroplane Contest around Great Britain, under the auspices of the Royal Aero Club of Great Britain, for a \$50,000 prize.
- August 1.—Commercial Vehicle Reliability Run, under the management of the Chicago Evening American.
- August 3, 4 and 5.—Race Meet on the beach at Galveston, Texas, under the auspices of the Galveston Auto Club.
- August 8-9.—Western Power Boat Regatta at Peoria, Ill.
- August 8, 9 and 10.—1911 Regatta of the Great Lakes Power Boat League at Detroit, Mich.
- August 12.—Reliability Run, under the auspices of the Quaker City Motor Club.
- August 16, 17 and 18.—Elimination Races to select American representatives for the Harmsworth trophy race for motor boats, Huntington Harbor, L. I.
- July 23.—The French Grand Prix Race, over the famous Sarthe course, under the direction of the Automobile Club of France.
- August 24, 25 and 26.—Races for the possession of the Harmsworth (motor boat) Trophy, to be held in Huntington Harbor, L. I.
- August 25-26.—National Stock Chassis Road Races under the management of the Chicago Motor Club over a course near Elgin, Ill.
- August 28 to September 4.—Second Annual Harvard-Easton Aero Meet at the Squantum, near Boston, Mass.
- September 1.—Commercial Vehicle Reliability Run, under the auspices of the Chicago Motor Club.
- September 1.—Reliability Contest in Oklahoma, under the auspices of the Daily Oklahoman.
- September ...—Eighth Annual National (Glidden) Tour of the American Automobile Association, from Washington, D. C., to Ottawa, Canada.
- September 2, 3 and 4.—Race Meet at the Indianapolis (Ind.) Motor Speedway.
- September 4.—Track Race Meet at the Denver Speedway, under the management of the Denver Motor Club.

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September 7, 8.—Track Race Meet at Philadelphia, under the auspices of the Philadelphia Automobile Trade Association.

September 7, 8 and 9.—Race Meet at the Hamline Track, under the auspices of the Minnesota State Automobile Association.

September 12, 13.—Race Meet of the Michigan State Automobile Association at the Grand Rapids track.

September 15.—Track Race Meet at the Appalachian Exposition at Knoxville, Tenn., under the auspices of the exposition management.

September 16.—Race Meet at the New York State Fair Grounds, Syracuse, N. Y., under the auspices of the Syracuse Automobile Club and dealers.

September 18, 19 and 20.—Commercial Vehicle Contest, under the auspices of the Chicago Motor Club.

September 23.—Annual Road Race at Lowell, Mass., under the auspices of the Lowell Automobile Club.

October ...—Race Meet at the Atlanta Speedway, under the auspices of the Atlanta Automobile Association.

October 3, 7.—Annual Race Meet at Danbury, Conn., under the auspices of the Danbury Agricultural Society.

October 7.—Annual Road Race in Fairmount Park, Philadelphia, under the auspices of the Quaker City Motor Club.

October 9-13.—One thousand mile reliability run of the Chicago Motor Club.

October 16, 17 and 18.—Reliability Run, under the auspices of the Motor Club of Harrisburg, Pa.

November 1.—Race Meet, under the auspices of the Waco, Tex., Automobile Club, at Waco, Tex.

November 2, 3, 4.—Reliability Run under the auspices of the Quaker City Motor Club.

November 7, 10.—Road Race, from Los Angeles, Cal., to Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.

November 9, 10 and 11.—Track Race Meet, under the auspices of the San Antonio Automobile Club at San Antonio.

November 10.—Track Race Meet at Phoenix, Ariz., under the auspices of the Maricopa Automobile Club.

November 29.—Third Grand Prize Race for the Gold Cup of the Automobile Club of America, at Savannah, Ga., under the management of the Savannah Automobile Club and the patronage of the Automobile Club of America.

November 30, December 2, 3, 25, 26.—Race Meets on the mile saucer board track at Los Angeles, Cal.

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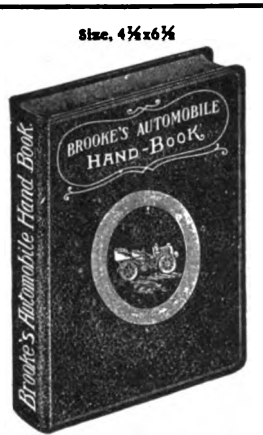
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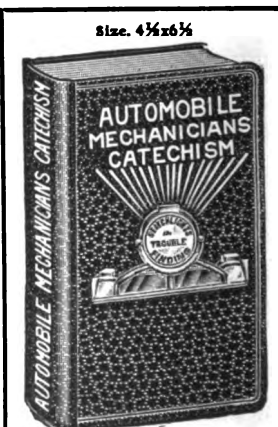
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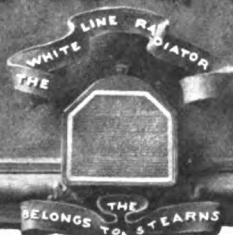
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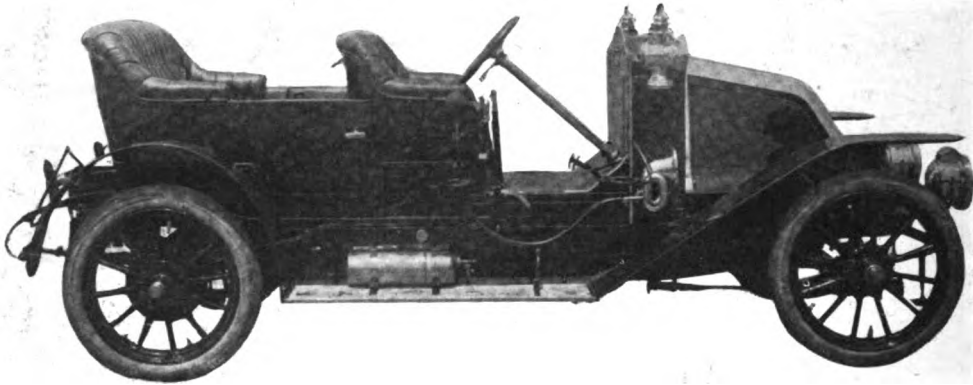


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Automobile Topics

THE TRADE AUTHORITY

Vol. LXX NEW YORK, JUNE 16, 1923 No. 5

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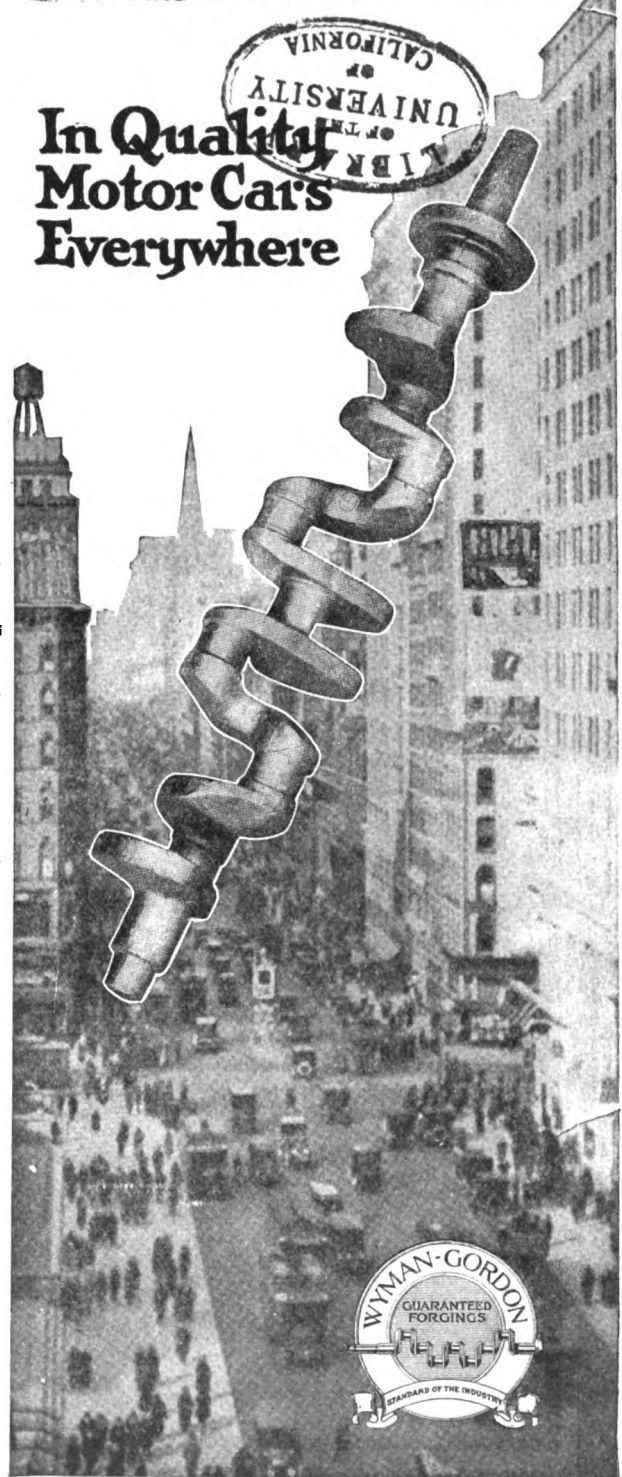
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WYMAN-GORDON

The CRANKSHAFT MAKERS

In Quality
Motor Cars
Everywhere





ZENITH



Higher Efficiency—Less Waste

In the recommendations of the Research Committee of the S. A. E. made to the Senate Committee on Manufactures there are two paragraphs of vital interest to manufacturers, dealers and car owners who wish to see better performing and more economical cars.

"There is little doubt that one-half of the cars in use are deficient in design in the respects that make for a proper mixture of the fuel and the air before ignition, and that the fuel-consumption of these cars could be reduced at least 20 per cent, by slight modifications in design and, in many cases, by simply replacing the parts that make up the fuel-system by others that are more efficient and already available."

"The adoption as rapidly as possible of carbureting devices that can be adjusted once for all by the maker to supply automatically a correct amount of fuel as completely atomized as possible for economical operation under all conditions."

World wide recognition of the continuous and uniform economy of the Zenith Carburetor has come from exactly this construction—once properly adjusted to fit the motor's needs, it is not subject to outside manipulation.

Let us show you what the Zenith will do for your car.

ZENITH-DETROIT CORPORATION

Manufacturer of

ZENITH CARBURETORS

Detroit

Michigan

Branches: New York, Cleveland, Chicago

STUDEBAKER



The Best Dealer's Contract Ever Offered

The Studebaker contract is the fairest, squarest dealer contract ever written.

That is why you will find so many capable business men in the big Studebaker family—why the contract is so favorably regarded by bankers. Why, in fact, so many former bank executives have gone into the automobile business—with Studebaker.

That is also one reason why fewer Studebaker dealers go out of business probably than those handling any other line of cars.

Because of its many exclusive features and others which Studebaker was first to adopt, the Studebaker contract offers a genuine opportunity to business men.

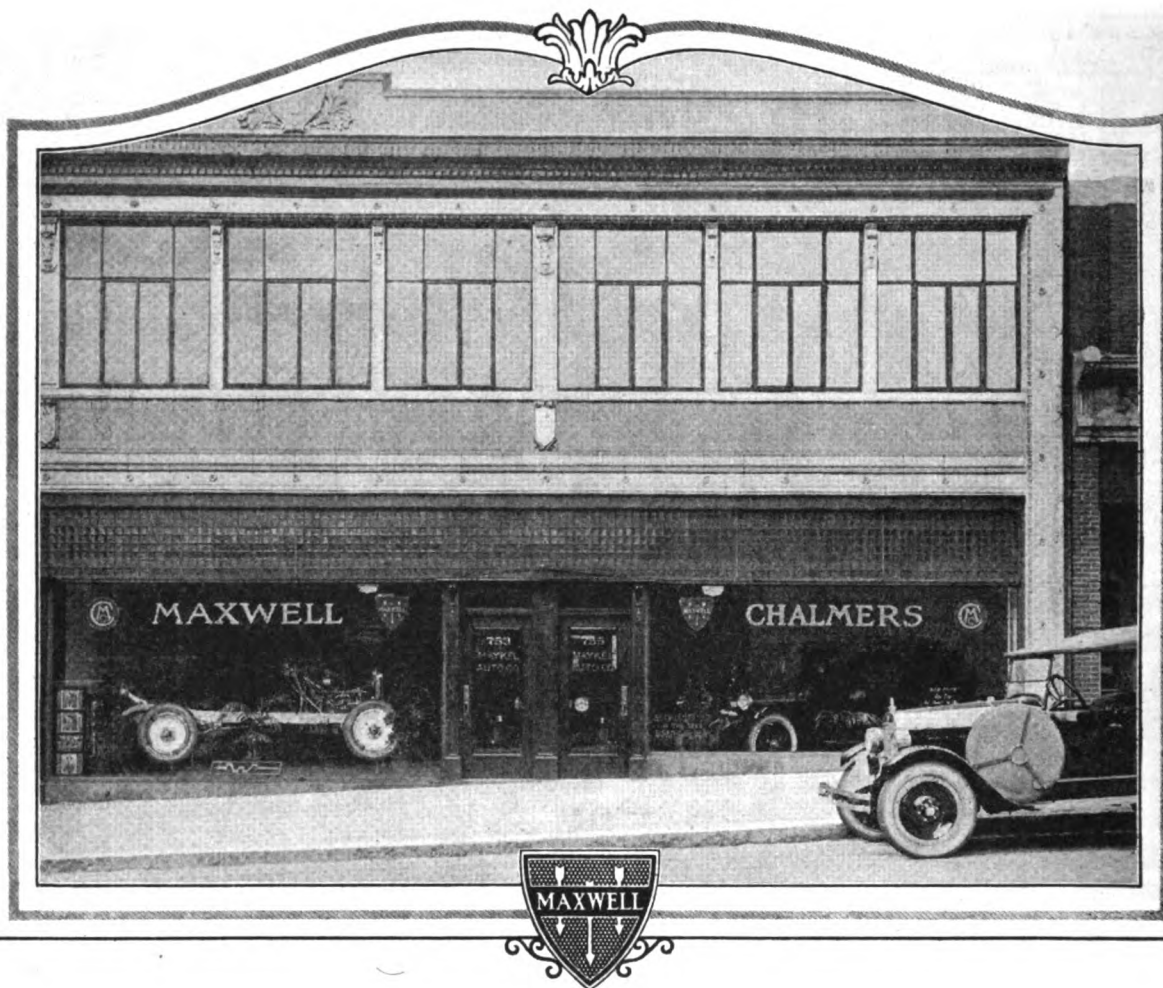
But back of the contract, and Studebaker's seventy-one year reputation for honest manufacture and integrity, is another powerful factor—a vital factor—which is offered by no other manufacturer—a *complete line of Sixes*, ranging in price from \$975 to \$2750, and in capacity from two to seven passengers.

No wonder the Studebaker contract is so highly regarded by business men, bankers and everyone interested in the industry.

THE STUDEBAKER CORPORATION OF AMERICA
South Bend, Indiana

MODELS AND PRICES—f. o. b. factories		
LIGHT-SIX 5-Pass., 112" W. B., 40 H. P.	SPECIAL-SIX 5-Pass., 119" W. B., 50 H. P.	BIG-SIX 7-Pass., 126" W. B., 60 H. P.
Touring \$975	Touring \$1275	Touring \$1750
Roadster (3-Pass.) . 975	Roadster (2-Pass.) 1250	Speedster (5-Pass.) 1835
Coupe-Road. (2-Pass.) 1225	Coupe (5-Pass.) 1975	Coupe (5-Pass.) 2550
Sedan 1550	Sedan 2050	Sedan 2750

T H I S I S A S T U D E B A K E R Y E A R



It becomes more and more apparent with each passing day that the dominance of the good Maxwell in its class is the outstanding development of the motor car industry.

The home of the Maykel Auto Company of Worcester, Mass. is representative of the standing of the good Maxwell in New England.

MAXWELL MOTOR CORPORATION, DETROIT, MICHIGAN
MAXWELL MOTOR COMPANY OF CANADA, LIMITED, WINDSOR, ONTARIO

The Good

MAXWELL

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

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\$1000 Cash Prizes for Repairmen 100 prizes in all

NO-LEAK-O

Piston Rings



Important: In buying piston rings insist on the genuine No-Leak-O with the original "oilSEALing" groove, packed in this standard package bearing the famous ring and seal, our registered trademark. Beware of imitations. Name stamped on every ring.

Get Your Hands on This Easy "Jack"

First Prize	\$250.00 cash	Fourth Prize.....	100.00 cash
Second Prize.....	200.00 cash	5th, 6th, 7th, 8th Prizes.....	50.00 each
Third Prize.....	150.00 cash	9th, 10th, 11th, 12th Prizes..	25.00 each

and 88 coupon books of 12 coupons each, each coupon good for one 50c No-Leak-O Piston Ring at your Jobbers; worth \$6.00 to you.

We offer you an opportunity to win any one of the valuable prizes listed above.



Here's how.—We want to know what auto repair men throughout the country think of No-Leak-O Piston Rings as business builders. We will award the above prizes in the order named to the auto repair men writing us the best letters based on their own knowledge of No-Leak-O and telling in their own way—1. How No-Leak-O Rings build business for repair men who use them. 2. Why No-Leak-O Rings do what other rings cannot do, and 3. How No-Leak-O Piston Rings work.

Send the coupon below, and we will send you contest entry blank, and interesting printed matter telling all about No-Leak-O Piston Rings. You are not required to buy anything or assume any obligation of any sort to enter this contest. The prizes will go to the repair men displaying the greatest skill in expressing their honest opinion of No-Leak-O rings.

Send the coupon today or write us. Contest closes October 1st, 1923.

NO-LEAK-O PISTON RING COMPANY
Muskegon, Michigan

WON'T LEAK
because they're sealed with Oil

No-Leak-O Piston Ring Co.,
Dept. 117, Muskegon, Mich.

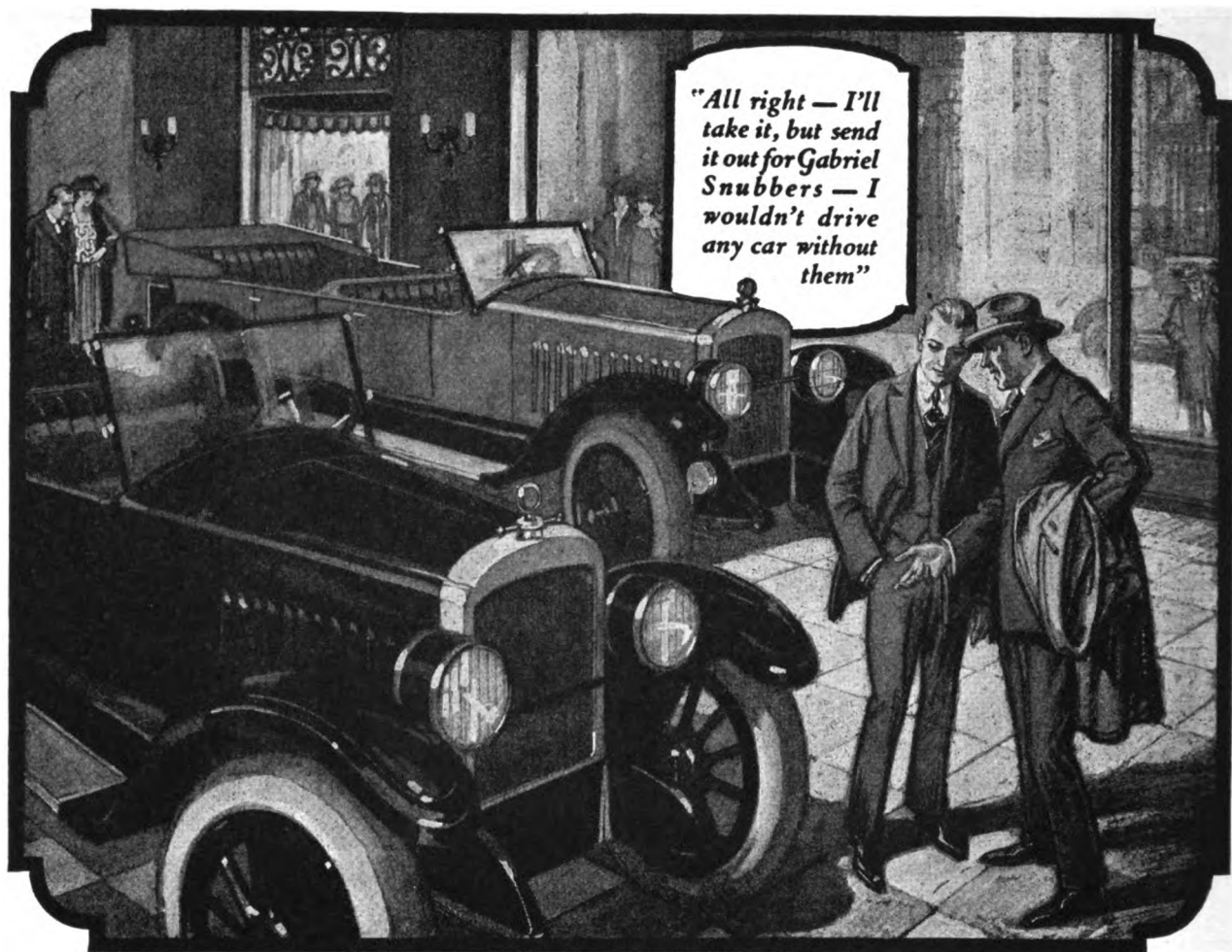
I am an auto repair man and want to compete for one of your prizes. Please send me contest entry blank, and printed matter telling all about No-Leak-O Piston Rings.

Name.....

Address.....

City.....State.....

Have you ever used No-Leak-O Piston Rings?.....



LET A MOTORIST once own a car equipped with Gabriel Snubbers—and from that time on, while he may change his mind as to the type or size of car he wishes to drive, he will never change his mind about the value of Gabriel Snubbers and the need of them on every car. 37 cars are standard-equipped and the manufacturers of 34 others put holes in frames for them.

Sold by Legitimate Dealers

THE GABRIEL MANUFACTURING COMPANY
1421 East 40th Street Cleveland, Ohio



**Keep You on the
Seat
Save Your Car**

**GABRIEL
SNUBBERS**

THERE IS NO OTHER

**If It's a Snubber
—It's a
"GABRIEL"**

The Nearest Approach to Perfection in the History of Tire Building

Over 600,000 Fisk Cord Tires 31x4 straight side (a new size and style in 1921) were sold in the first 18 months of production, with a return of less than 50, or under 1-100 of 1% for any claim or evidence of imperfection.

That means that if you sold 1100 of these 31x4 Fisk Cords in a year and a half only one of them was presented with a request for adjustment.

This astounding record is a clinching reason why every tire dealer who wants to do a real volume of business should put his selling energy where it will make him the biggest profit—behind Fisk Tires!

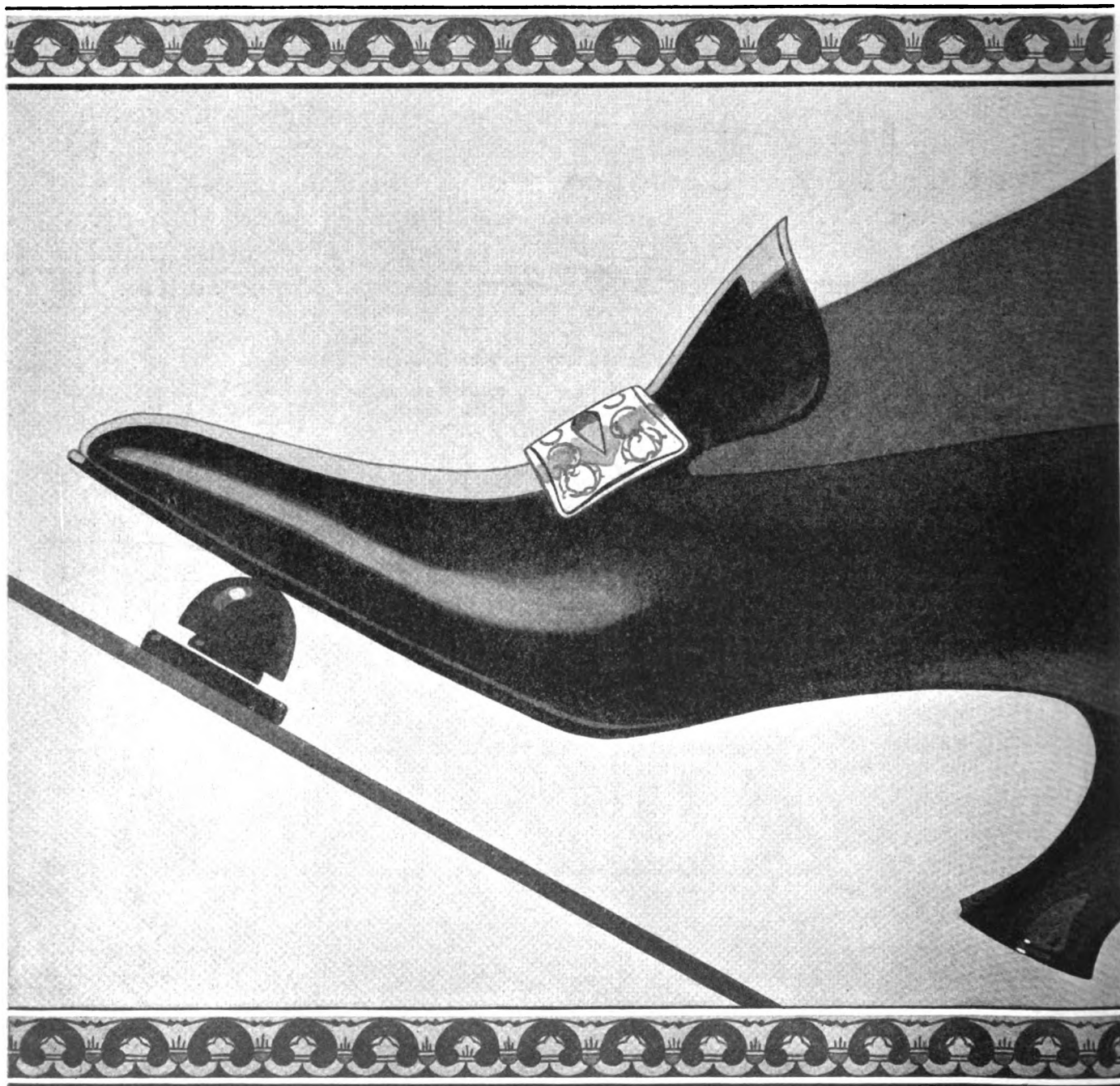
It is a great line—unbeatable cords, the unapproached Red-Top, the luxurious Flat-Tread—every one a remarkable tire, every one a profitable, increasing and *permanent* trade-builder.

*There's a Fisk Tire of extra value for
every car, truck or speed wagon*



Auto

Starting, Lighting



Auto-Lite

and Ignition

IT is plain to be seen what a great asset the Auto-Lite System is in a motor car. Builders of 40 to 50 per cent of all motor vehicles electrically equipped (excluding Fords) have standardized on Auto-Lite.

These manufacturers may differ on other features of automobile construction, but they are agreed upon Auto-Lite. Agreed upon its superiority. Agreed that Auto-Lite deserves the great public confidence it has earned.

Auto-Lite has for years been giving maximum service over a longer life with a minimum requirement of attention. Hence car builders, in adopting Auto-Lite, are giving owners what owners want. And putting it squarely up to us to fulfill the obligations of our leadership.

THE ELECTRIC AUTO-LITE COMPANY

Offices and Works:
Toledo, Ohio

Detroit Sales Office:
1309 Kresge Bldg.



*Geyser Basin, Yellowstone National Park
See America First Through Ainsworth Windshields*

© HAYNES, NORTHERN PACIFIC RY.



TOURING

The picture ahead of you is never impaired when your car is equipped with an Ainsworth Windshield and Visor.

Good weather or bad, the driver of a car on tour welcomes the comfort, convenience and safety of perfect vision afforded by the Ainsworth Windshield and Visor on his car.

This year thousands of tourists will receive the full measure of pleasure from their trips because of an Ainsworth equipped car.

The **Ainsworth**
WINDSHIELD AND VISOR

AINSWORTH MANUFACTURING COMPANY
DETROIT, MICHIGAN

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EL PASO HERALD

VALVE-IN-HEAD



R CAR

The Standard of Comparison

A Buick is a Happy Gift

Typifying the very spirit of youth in the sparkling originality of design and in its beauty, this Buick six-cylinder sport roadster has won the hearts of young people everywhere.

The completeness and luxury of the appointments of the Buick Sport Roadster not only assure every motoring comfort and convenience but give that smartness and appearance.

Fours	
2 Passenger Roadster	\$ 865
5 Passenger Touring	885
3 Passenger Coupe	1175
5 Passenger Sedan	1395
5 Passenger Touring Sedan	1325
Sport Roadster	1025

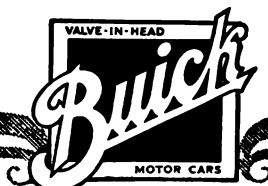
Sixes	
2 Passenger Roadster	\$1175
5 Passenger Touring	1195
5 Passenger Touring Sedan	1935
5 Passenger Sedan	1935
4 Passenger Coupe	1935

Buick Dealers have the Advantage of a Complete Line

This Buick Sport Roadster is a typical example of the completeness of the Buick line. Whatever the requirements may be there is a Buick model that suits exactly. This naturally leads to many additional Buick sales. Why not have your name on file?

BUICK MOTOR COMPANY, FLINT, MICHIGAN
Division of General Motors Corporation

Pioneer Builders of
 Valve-in-Head Motor Cars



Branches in All
 Principal Cities



Dodge Brothers
believe that their
success is dependent
upon the success
of their Dealers.

Selling Them and Keeping Them Sold!

It is good salesmanship to "sell" a man, but good merchandising is keeping him "sold."

That is why we stress the superior service of Goodrich Tires and why it is natural for Goodrich Dealers to get orders for replacements and spares from the large number of car owners who found Goodrich their original equipment.

Our 1923 dealers' co-operative sales plans are interesting because they are so successful—they meet the needs of every dealer, large or small. That is one big reason why they build permanent business for you—the **QUALITY** is always there to back you up.

Ask us about them now.

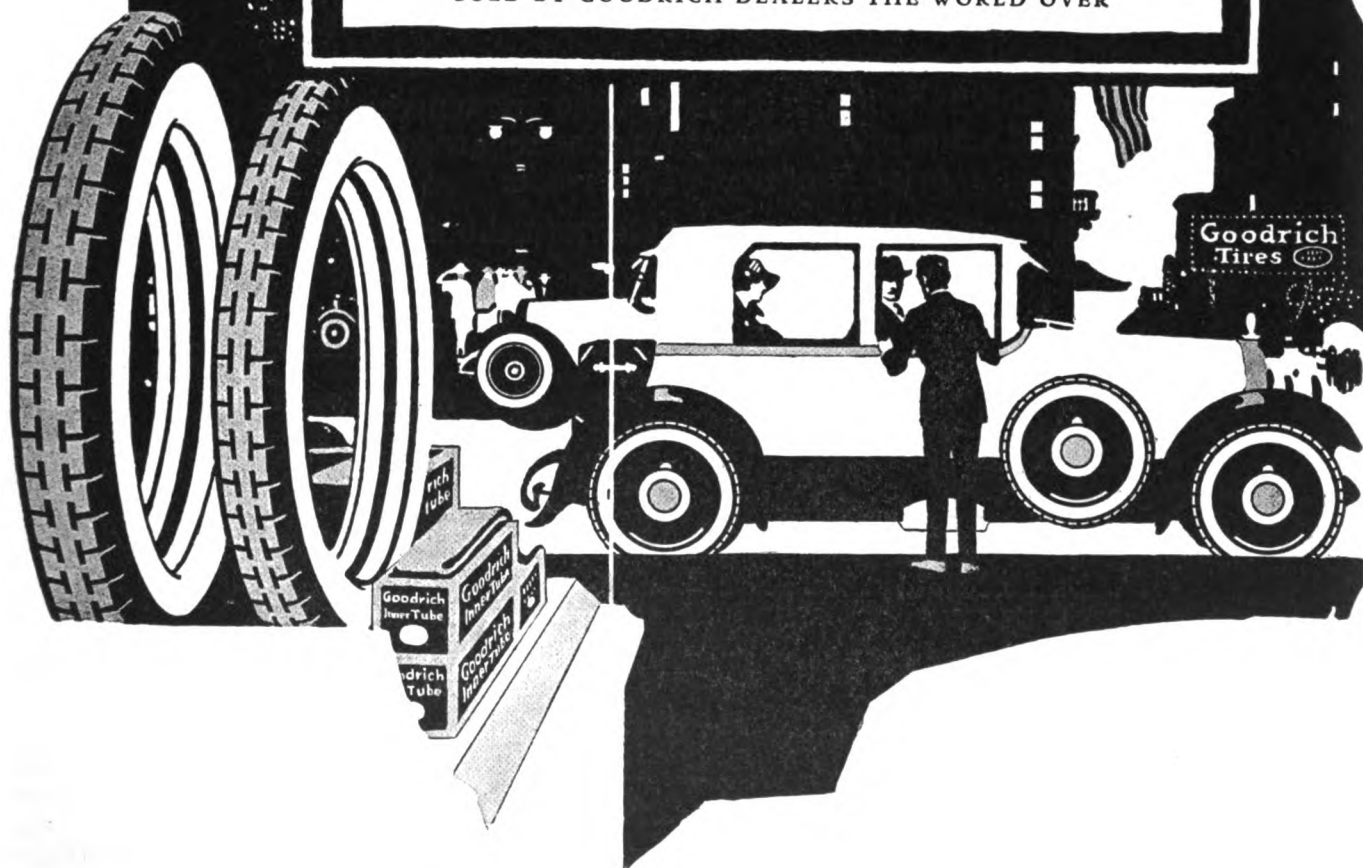
THE B. F. GOODRICH RUBBER COMPANY
ESTABLISHED 1870

Goodrich

TIRES

"Best in the Long Run"

SOLD BY GOODRICH DEALERS THE WORLD OVER





Nash Leads the World in Motor Car Value

2000 May orders Had to be cancelled

Though May production of Nash cars ran well beyond 6000 cars it was necessary to cancel more than 2000 May dealer orders.

And at this writing June orders bulk to so great a volume that the end of the month will see Nash again with more than 2000 unfilled orders despite the greatest production in our history.

These figures need no amplification. They tell their own story of the country-wide growth on a vigorously expanding scale of the popularity of the Nash car.

The history of the industry during the past six years reveals no parallel to the Nash Motors Company in its rapid rise to the very front ranks of the industry.

It is in no sense an over-night reversal of public opinion.

Instead, it is the successful blossoming of a national conviction that Nash cars do actually *lead the world in motor car value*.

And this is being reflected in the tremendously enhanced value of the Nash franchise regarded today as one of the prize contracts of the trade.

Your application for a good territory should be wired in at once.

NASH

THE NASH MOTORS COMPANY
KENOSHA, WISCONSIN

Nash Leads the World in Motor Car Value

(1703)

Automobile Topics

THE TRADE AUTHORITY

Vol. LXX

NEW YORK, JUNE 16, 1923

No. 5

ERSKINE BIDS FOR PRESIDENT HARDING

Studebaker Head Tells Republican Editors of Indiana Present Administration Should Stand—Prosperity to Continue, If Let, He Is Sure.

A. R. Erskine, president of the Studebaker Corporation, has hurdled the non-political tradition of the automobile industry and come out flat-footed for Harding in 1924. Many constructive acts by the present administration are directly contributing causes to present prosperity, he believes, and while the Republican majority in Congress failed to support the President in many of his recommendations, he says, it is entitled with him to credit for what Erskine generously terms "a record of credit and distinction."

Erskine's endorsement of President Harding was delivered as a preliminary to an address, at a luncheon in South Bend, June 8, to the Indiana Republican Editorial Association, whose members were guests at the Studebaker factory. It is the first public pronouncement of a prominent automobile man since the Ford-for-President talk started, and therefore will attract wide attention in the industry as well as in political circles.

Erskine refrained from discussing Ford's candidacy directly, but alluded to it among other subjects as "characteristic of the kind of things that usually occupy our minds."

"When Harding was elected in 1920, the business of the Nation was thoroughly demoralized," Erskine said in part. "Harding's election revived hope, which was transformed into confidence when he announced his cabinet appointments. . . . Within one year, the volume of national production, commerce, and employment reached high proportions, and today is the highest ever recorded in the Country. Such things are possible only when confidence is felt by

business. Destroy this confidence and the structure will topple down.

"Many constructive acts by the Harding administration are directly contributing causes to our present business prosperity, among them being great reductions in the national budget, substantial reductions in the bonded debt, refinancing of maturing bonds, and the success of the Washington conference.

"While the Republican majority in Congress regrettably failed to support the President in many of his recommendations, it is entitled to joint credit with him for the beneficial laws covering the tariff, co-operative marketing, and farm credits—together, a record of credit and distinction to the Republican party, which entitles it to remain in office. President Harding is entitled to unanimous renomination and overwhelming re-election. In my opinion, business interests throughout the nation want him and will vote for him. . . .

"The most vital political question before the Country today is, in my opinion, reduction of taxes, including state as well as federal taxes. The enormous expenses of government are not borne lightly by the people, and the Republican party can attract millions of votes on a reduction pro-

(Continued on page 426, first column)

N. Y. C. SHIPMENTS AT RECORD

May's Total Was 21,224 Automobile Cars

More cars were loaded with automobiles on the New York Central Lines during May than in any other month on record. Total for month was 21,224 cars, an average of 817 carloads a day.

Traffic records show the steady growth of prosperity in automobile industry. Figures are truly indicative because practically all the great automobile manufacturing centers, including Lansing, Detroit, South Bend, Toledo, Indianapolis, Muncie, Buffalo, Syracuse and Tarrytown, are served by the New York Central Lines.

NEW PLAN WEEDS OUT UNDESIRABLE DEALERS

Automobile Chamber and Credit Men Combine to Improve Paper—Time Payment Increase Provides Incentive—N. A. C. C. Members to Benefit.

Through a newly established arrangement with the Automobile Financing Credit Men's Association, automobile manufacturers will be able hereafter to secure credit information on new dealers. This interchange, it is expected, will go a long way toward weeding out undesirable and so play an important part in cleaning up a situation which admittedly has been bad. A direct result of the plan will be to improve the standing of automobile paper in the eyes of bankers, thereby helping the credit of the industry, especially in respect to the handling of time payment sales which have been steadily increasing in volume.

The new plan follows a long period of study and discussion, having been under consideration for some time. It was directly effected by the acceptance by directors of the National Automobile Chamber of Commerce of an offer of co-operation from the Credit Men's Association, tendered some time ago. Final action was taken at the directors' meeting last week, but it was not until this week that official announcement of the move was given out. More than usual interest has been aroused among members as the result of the adoption of this project.

The finance companies expressed a keen desire to assist in improving the status of dealer paper, and it is thought that by encouraging manufacturers to submit names of new dealers to their organization the tendency will be to prevent persons who have proven irresponsible in former dealings with finance companies,

(Continued on page 422, first column)

Drake Sworn In as Hoover Aid

J. Walter Drake, chairman of the board of the Hupp Motor Car Corp., was last week sworn in as assistant secretary of commerce in Washington. He will have charge of the department in the absence of Secretary Hoover who will accompany the President on his trip to Alaska. He succeeds C. H. Huston, of Chattanooga, in the new post.

Hubert on Pyrene Board

Conrad Hubert has been elected a director of the Pyrene Mfg. Co. He is well known to the industry as a director of the Union Carbide & Carbon Co., and the U. S. Light & Heat Corp.

New Eaton Directors Elected

Four new members of the board of directors of the Eaton Axle & Spring Co., of Cleveland, have been elected. They are E. B. Greene, C. L. Bradley, E. V. Walker and W. Forbes Morgan.

Boyle with Sterling-Knight

T. A. Boyle, who has been a territorial man for the Willys-Overland Co., has joined the Sterling-Knight Co. as assistant sales manager. He was at one time assistant sales manager with the F. B. Stearns Co. and is thoroughly familiar with this field of endeavor. He took up his new duties June 1.

Allison Succeeds Fisher

James A. Allison has been elected president of the Indianapolis Motor Speedway Co., to succeed Carl G. Fisher. The new president has owned the controlling interest in the speedway since 1917. In his resignation Fisher said that it would be quite impossible for him to devote the necessary time to speedway interests. It has been decided to hold the Memorial Day races at the speedway as usual hereafter, rumors to the contrary notwithstanding.

Directs Farran-Oid Sales

H. E. Taylor has been appointed sales manager of the Farran-Oid Co., Akron, O. For the past three years he has been sales manager of the Las-Tik Patch Mfg. Co.

V. H. Day Visits Denver

V. H. Day, general sales manager of the General Motors Truck Co., who has been on the Pacific Coast for some weeks, is now in Denver. Truck prospects, he reports, are excellent for the ensuing months.

Hayden Returns from Europe

H. K. Hayden, of the automotive equipment department of the Westinghouse Electric & Mfg. Co., has just returned from Europe after an extensive survey of automotive industries abroad. The industry there, he says, is reviving from

the period of stagnation that beset manufacturers following the conclusion of the war. He has been gone three months.

BRUCE MADE AMERICAN HEAD

Hammered Piston Ring Executives Raised

Albert C. Bruce, former vice-president and general manager of the American Hammered Piston Ring Co., has been appointed president, to succeed C. F. Hockley who will devote his entire attention to being vice-president of the Bartlett-Hayward Co., the parent concern. Hockley will be chairman of the board of the Company whose presidency he just relinquished.

C. C. Stettinius becomes first vice-president and general manager. Thomas B. Blakiston will be general manager of the replacement division and vice-president. Jos. S. Jacobs, secretary and assistant treasurer, has resigned to become sales engineer of the gas division of the Bartlett-Hayward Co.

Lane on Eastern Trip

Ralph S. Lane, president, and F. A. Oberheu, sales manager, of the United Motors Service, left this week on a trip to the East. They will visit the Klaxon Co., Newark, N. J.; the Hyatt Roller Bearing Co., Harrison, N. J., and the New Departure Manufacturing Co., Bristol, Conn., in addition to the Boston, New York and Philadelphia branches of their company.

Must Insure Bus Lines

Effective June 22, a new state law in Michigan puts bus lines under the control of the State Public Utilities Commission. Insurance clause in the law requires each bus company to take out a liability insurance policy furnishing \$5,000 protection for one passenger, \$10,000 for a load up to 12 passengers, \$15,000 from 13 to 20, \$20,000 for 21 to 30, and \$25,000 for more than 30. The policy must also provide \$1,000 protection for passengers' property.

RUBBER PAVEMENTS FOR BOSTON STREETS SUGGESTED

Trial Expected to Develop Interest in Novel Idea

Boston may give rubber street pavement a trial. Four streets bounding the City Hospital have been chosen for the experiment. The new pavement consists of rubber blocks one foot long, four inches wide and two inches thick. It is claimed to be superior to wood block pavement in that the elements have no effect on it; it neither contracts with cold nor expands with heat, and is virtually noiseless.

Rubber pavement has been in use in Highgate, London, for the last 43 years "without a sign of wear," it is alleged, while a pavement only half an inch thick has been down in Cleveland for 10 years with repair costs almost negligible.

Swayne on Lehigh Valley Board

Alfred H. Swayne, vice-president of the General Motors Corp., has been elected a director of the Lehigh Valley railroad. He succeeds the late Charles D. Norton in this capacity.

Durant Directors Reelected

Stockholders in Durant Motors, Inc., have reelected three members of the board of directors whose terms expired in May. They are A. H. Sarver, W. W. Murphy and H. W. Alger.

Pierre Schon on Southern Trip

Pierre Schon, of the sales department of the General Motors Truck Co., has left Pontiac for a trip through the South. He will visit New Orleans and other large Southern centers.

Watson on Heat Treating Body

J. P. Watson, director of the metallurgical department of the Hupp Motor Car Corp., has been elected chairman of Detroit chapter of the American Society for Steel Treating, an organization which has assisted materially in improving the kinds of steel that enter into automobiles. The Detroit chapter is the largest of the 27 located throughout the Country, having 350 active members, most of them connected with the automotive industry. The society's entire membership is nearly 5,000. Watson has been a member of the executive committee for four years.

Liberty Sale Again Put Off

Sale of the Liberty Motor Car Co., Detroit, has again been postponed. Originally set for June 14, the date was put ahead to July 17, on petition of the receiver to allow creditors' committee more time to complete its plans. Company may continue as a going concern. Assets total slightly more than \$1,600,000.

John C. Konrad

John C. Konrad, vice-president of the Frederick R. Wood & Son Co., and identified with the carriage, wagon and automobile industry all his life, died last week at his home in Flushing, L. I. He was 62 years old. He became associated with Frederick R. Wood & Son about 15 years ago, having entered the carriage industry in his youth in the house of Brewster of Broome street. At one time he was in business for himself as a carriage designer and heraldic artist.

Theodore Weigle

Theodore Weigle, a pioneer in the tire industry, died June 6, at Millersburg, O., where he was identified with the McKone Tire & Rubber Co. Starting as a retail clerk in the rubber business he became chief of the bicycle tire sales of the old Diamond Tire Co. He continued in this capacity until after automobile tires were added to the line. He had been ill for a long time.

CHRYSLER DECIDES TO STAY ON AT MAXWELL

Chairman of Board Makes Permanent Connection—Increases Personal Holdings—Is Working in Interest of Dealer Betterment to Aid Prosperity.

Walter P. Chrysler, chairman of the board of the Maxwell Motor Corporation, has largely increased his personal holdings in the Company and from now on will be permanently and exclusively identified with it. This simply means that having gone into the concern as an outsider, for the purpose of rehabilitating it, Chrysler has become so thoroughly interested in its prospects that he has determined to stay and participate in its progress. The news, naturally, eliminates any possible question as to the duration of the present management, and also leaves no room for conjecture as to the probable continuance of Maxwell's upward progress.

Maxwell's comeback has been one of the features of the last eighteen months. Its sales climbed through 1922, but early this year began to show renewed strength. In the Spring it was predicted it would build 60,000 cars this year.

In five months up to the end of May it had actually produced almost half that number. Figures for May show a production of 5,625 Maxwell and 1,635 Chalmers cars; 7,260 units in all.

Chrysler's decision to cast his lot permanently with the concern results from a most intimate knowledge of its affairs, an inbound conviction that its future is great with possibilities, and finally a wholesome, undoubted sincere and almost parental affection for it. The job of reorganization which he undertook nearly three years ago may be said to have been practically completed.

The chairman of the board was, in fact, absent in Europe for some time and was thought to be diversifying his interests and perhaps intending to withdraw from the automobile business altogether. This move, therefore, may be regarded as a deliberate choice made for evident and sufficient reasons.

Maxwell's reorganization and the permanent consolidation with it of the Chalmers Motor Car Co., fell into a critical state during the last financial setback, it will be remembered. Along with stockholders and creditors a large number of banks were heavily interested in its affairs, and these, being also heavily interested in other automobile concerns, became apprehensive lest the downfall of the enterprise, which then seemed almost certain, might depress the credit of the industry as a whole.

Hence an operating committee was brought in from the outside, of which Chrysler, then vice-president in charge of manufacturing for the Willys interests, was made chairman. Later, with the reorganization under way, he became chairman of the

board, having in the meantime closed out his other automobile connections. President Wm. Robert Wilson and Vice-President A. E. Barker, were selected for their present posts soon after, while the organization in general was reshaped and pretty thoroughly overhauled. Chrysler himself is inclined to give full credit to these and other operating executives for the splendid results that followed, but the industry in general has regarded Chrysler as the primary directing force.

Originally a manufacturing man, and therefore practical to his finger tips, Chrysler was president of the Buick Motor Co., and later a vice-president of the General Motors Corporation. Far from being simply a manufacturer, however, he has profited by his experiences of the past few years and developed a thorough grasp of the merchandising end of the business. As a result, he has interested himself particularly in the welfare of the Maxwell dealers, declares that the Company can permanently prosper only through the prosperity of the sales forces, and while spending considerable time at the factory in Detroit, is devoting a great deal of his personal attention to the needs of the retailers, with the aim of bettering their position as far as may be consistently possible.

HUDSON SHIPMENTS INCREASE

Year's Dividends Earned in Quarter

Shipments of the Hudson Motor Car Co. during May totaled 10,200 cars, compared with 9,400 in April and 8,604 in March. Total shipments for the first half of the Company's fiscal year were more than 46,000 motor cars, compared with 61,233 during the twelve months of the last fiscal year.

Estimated net earnings for the first fiscal quarter are between \$4,000,000 and \$5,000,000, or more than enough to cover the full year's dividend requirements. Company has \$11,000,000 cash, large blocks of United States Treasury certificates and no payables except small current accounts.

Cadillac Export Trade Increases

Rapid increases in export business have been reported during the past six months by the Cadillac Motor Car Co. Indications of the return of Hungary to the American car market are found in recent orders from Buda-Pest. H. C. Richards, Cadillac distributor at Adelaide, Australia, predicts a rapid increase in Cadillac owners there in the near future.

Auburn Output at Record

A. P. Kemp, president of the Auburn Automobile Co., states that May production for his Company was the greatest in its history. The month shows 110 per cent increase over May last year. Thus far this year's production surpasses last year's entire output.

BUICK OUTPUT IN MAY MAKES HIGH RECORD

Current Operations Indicate Continuance of Record Business—Carload Figures Eclipsed Early in June—Outlook Excellent Declares Bassett.

May having established itself as Buick's record month with a production of more than 19,500 cars, June is already bidding fair to eclipse the records of the previous month, figures at the main plant of the Buick Motor Co. reveal. Buick production figures have been mounting rapidly since last Fall, the books show. Average output since then has been approximately 16,700 automobiles per month.

Record daily output was achieved on April 17, when 962 cars were turned out. During the first six days of the current month 366 freight carloads, containing 1,237 automobiles, were shipped from the factory in Flint, Mich. Since January 1, there have been 131 solid trainloads of Buicks shipped. The trains averaged 50 cars apiece.

"I can see no reason why the last six months of this year should not produce equally as good business for the automobile trade as the first six months have shown," says President H. H. Bassett. "Generally speaking, crops promise to average well. The money situation is in fine shape. There is no apparent tendency for a runaway boom market, which might be followed by a depression."

DURANT EARNINGS LARGE

One Line Makes \$3,000,000 Thus Far

W. C. Durant reports that thus far this year \$3,000,000 has been made in Durant cars. Additions are being planned for the Durant factory at Lansing, Mich., to be ready for operation early in the Fall. Hayes-Hunt Corp., output is running 10,000 bodies monthly.

Production of automobiles for the entire industry in May was six per cent in excess of April. Durant production, it is pointed out, ran 14.6 per cent over April in the same month. April's output was 25.9 over March, and that month in turn was 73.6 over its predecessor.

Cole Makes New Record

Driven by Erwin G. "Cannon-Ball" Baker, a master model Cole recently negotiated the journey from Indianapolis to Cincinnati and return, a distance of 203 miles, in four hours and 22 minutes. Average speed was 50.9 miles per hour. The return trip was made in one hour and 57 minutes, at an average speed of 51.9 miles per hour. This was made in 30 minutes shorter than train time.

STUDEBAKER OUTPUT AT NEW HIGH LEVEL

**Record of 780 Cars Made on May 29—
Current Production at Rate of 180,000
Annually—New Buildings Being
Rushed to Completion.**

Record production for Studebaker was established on May 29, when 780 cars were put out and shipped from the plants at Detroit and South Bend. Of this total 189 were driven away from the factories. The record was achieved without permitting cars to be accumulated for the purpose of making the record, according to factory executives.

Sales of Studebaker cars in 1921 were 29 per cent. greater than in the preceding year, notwithstanding that the total number of automobiles sold of all other makes, except Ford, was 40 per cent. less than 1920. A record production of 110,269 was made in 1922. It is estimated that by July 1, of the current year the Company will have sold 80,000 automobiles, an increase of about 50 per cent. over last year.

It is pointed out that the record output of 780 cars is but slightly in excess of the regular daily production. Present output is at the rate of 15,000 cars monthly, or 180,000 annually. Additional factory facilities begun this Spring, to cost \$5,000,000 are being pushed to completion to take care of a demand that exceeds present production possibilities.

NEW PLAN WEEDS OUT UNDESIRABLE DEALERS

(Continued from page 419, third column)

in the handling of automobile paper, from securing new dealer contracts.

If this result is obtained it is felt that it will be reflected directly in the improved standing of automobile paper and its reputation with the banks. As the Credit Men's Association includes concerns that finance a very large proportion of time sales of cars and trucks their experience covers a proportionately large number of dealers. With the working out of the arrangement, it follows also that an increasing amount of information will become available, so that in the course of time dealers who are incapable of managing their businesses properly will be weeded out.

In practice, the automobile manufacturers will simply send new dealer lists to the credit men, who, in turn, will check them over and report on the undesirables. The service, naturally, is available only to members of the N. A. C. C., and is the first move to be made along these lines.

Time payment sales are fast increasing, and with the growth in the proportion of deferred sales has come a marked need for increased caution. In general, this class of business has been handled with a remarkable degree of safety to the

finance companies and the banks, which very largely underwrite their operations. The need for some source of stability has been felt all along, however, while the chance that dealers who are slipshod or even dishonest in their dealings with one manufacturer might transfer their allegiance from one manufacturer to another, when called to account, was also appreciated.

High mortality among small dealers has been a sad feature of automobile development, but one with which the industry as a whole has been unable to cope, because of the constant demand on all sides for wider retail outlets. This has produced the keenest competition among the manufacturers to secure dealers, and has resulted in the encouragement of many individuals to continue who nevertheless lacked the necessary qualifications.

It is from the ranks of these that most of the failures of the past have come, and while the larger manufacturers are becoming increasingly careful in their selections of new representatives, it is felt that a checking system, such as has now been established will go a long way toward preventing the repetition of past indiscretions of this kind.

U. S. ROAD PROGRAM IS BIG

Undertakes to Improve 180,000 Miles

Since 1916 the United States Bureau of Public Roads has undertaken a program of 180,000 miles of road improvement help. Thomas H. MacDonald, chief of the bureau reports that last year \$976,000,000 was spent by the Federal government in good roads work, together with states, counties and municipalities.

He declares that there are now 2,800,000 miles of roads in the Country, of which 2,500,000 remain to be improved. Passenger traffic, he says, forms 65 per cent of the total traffic on the Nation's highways.

GENERAL MOTORS COMMON STOCKHOLDERS INCREASE

Second Quarter Shows 45,921, as Compared with 45,330 in First Quarter

Complete compilation of the number of the various classes of stockholders in the General Motors Corp. for the second quarter of this year show 45,921 common stockholders against 45,330 in the initial quarter. Preferred stockholders are 3,393 against 3,411 in the first quarter.

The accompanying table shows the actual number of holders of the various securities in comparison with the first quarter.

Classes of Stock	2nd Quarter 1923*	1st Quarter 1923
7% Debenture.....	8,523	8,591
6% Debenture.....	9,580	9,783
6% Preferred.....	3,393	3,411
Common	45,921	45,330

*Senior securities of record April 21, 1923, and common May 21, 1923.

BIG OVERSEAS TRADE IN GENERAL MOTORS

**Car and Accessory Units Enjoy Huge
Volume of Foreign Business—Large
Investment Outside of United States
—Marketing Organization Perfected.**

Overseas activities of the General Motors Corp. are on a scale far more extensive than the trade is generally aware. There are in use in foreign countries more than 42,000 Buicks, 29,000 Chevrolets, 5,000 Cadillacs, 9,700 Oaklands, 4,200 Oldsmobiles as well as 3,100 GMC trucks. These have been marketed very largely through the General Motors Export Co., the subsidiary that sells the product of the car making units.

The Export company has 16 offices in important distributing centers of foreign countries. From these centers the sales and service activities cover 144 countries. This is done through 500 distributors and thousands of dealers and sub-dealers. Manufacturing and marketing facilities of the Corporation in Canada, is accomplished by General Motors of Canada, Ltd. This Company has capital of \$25,000,000 invested and its payroll is estimated at approximately \$500,000 monthly.

In London General Motors, Ltd., handles the distribution of General Motors products in the United Kingdom. An extensive body and assembling plant is maintained by this unit in North London. AC spark plugs, AC speedometers, Klaxon horns, Delco and Remy starting, lighting and ignition systems, Hyatt and New Departure bearings, Jaxon rims and other General Motors essential accessories are marketed in foreign countries by the Overseas Motor Service Corp., another subsidiary of General Motors Corp.

This information is conveyed in a booklet just issued for the information of stockholders, which is one of a series of enlightening brochures on the Corporation's affairs. President Alfred P. Sloan, Jr., in this booklet has the following to say regarding export conditions of the Corporation:

"In America fine motor cars are produced in large quantities. Thereby costs are reduced. This permits American cars to be sold overseas at prices comparing favorably with competitors in spite of the extra burden of freight, tariff and adverse rate of exchange which prices of American cars must include.

"This advantage plus the service and parts policies which our manufacturers offer overseas gives an impetus to the demand for American motor cars. Granting a demand abroad approaching only a fraction of the demand in the United States, there is an enormous market overseas awaiting development. Many years ago, General Motors foresaw the potential demand and accordingly planned against the time when the world would come to America as the chief source of supply."

FATE OF SPORT JOB HANGS IN BALANCE

Demand of Immediate Future to Decide on Status of Sport Models among Makers—Most Popular Near Big Cities—Offers Resale Problem.

Just what the future of the sport touring car is destined to be is still something of a question. To judge by the evidence of the eye in some sections it has come to stay. To judge by manufacturers' lists, as summarized by AUTOMOBILE TOPICS' Table of Passenger Car Selling Points, it is being produced on one or more chassis models by all but about a dozen of the really active manufacturers. Yet its status is far from being permanently assured because conditions vary so much in different places and in many localities demand for it has yet to be developed.

Out of 133 models listed by the Table sport or roadster types are specified in all but 30. As a majority of these are sport touring cars it might be said that 77½ per cent of all active lines feature cars of this description. If from this list are eliminated all lines produced in several models, at least one of which carries a sport type, and several lines in which manufacture is only nominal, it is found that practically 90 per cent of the really productive lines feature at least one sport touring type.

By contrast with the impression that the sport car has taken a firm hold on the popular fancy, a careful survey made by one interested manufacturer shows a series of exceedingly high points in relative demand contrasted with very long and deep valleys between. The peaks are most marked in the sales territories surrounding New York, Chicago and San Francisco, respectively, for reasons which are perfectly obvious. Each of these is a large and affluent population center, surrounded by suburban communities wherein fashion rules. Novelty and luxuries are always in relatively great demand in these localities. In a double sense, they are leading markets, and this is just as true of sport cars as it is of new and fashionable features in any line outside the automobile business.

Studies of demand in smaller cities and in the great stretches of country surrounding towns and villages and reaching out into the rural districts, by contrast, tell an entirely different story. With respect to some makes of automobiles at least, the vast majority of buyers show only a small preference for the sport job. Hence it is true of the lower-priced lines that the demand for the new style "dolloed-up" car is concentrated in a few active districts. Otherwise, it is scattered and limited as to quantity.

Distribution of demand, quite as much

as quantity, must necessarily govern the decisions of the automobile maker, however, and this renders the situation hard to judge at the present time. Sport models in a few lines are selling with conspicuous success almost everywhere, to be sure, but in the average case the manufacturer is desirous of learning whether demand is sufficiently uniform to warrant continuing this type in the dealers' regular quota.

Big production and the quota are inseparable. Otherwise the manufacturer would find himself short on some types

TABLE TOPICS

Every so often there comes a particularly convincing illustration of the need of weekly revisions in any sales tabulation such as AUTOMOBILE TOPICS' Table of Passenger Car Selling Points (copyrighted). This week for example—

Some ninety changes on 31 lines were made in this week's issue of the Table. In addition, three new lines were added. Every one of these changes came from, and were authorized by the car makers.

Weekly revisions are *absolutely essential* to keep any sales table of the automobile industry always up-to-date. Weekly revisions make possible, too, the listing of new cars the week introduced. Packard single-eight, for instance, is carried on the Table in this issue. The twin-six, now discontinued, will still be listed until dealers' stocks are cleared up and because it will come into the used-car market for some little while to come.

Moon did not advance prices as it had first intended. The former and correct prices were at once put back on the Table this week. Cole's advanced prices are listed, too.

Revised to June 12, the Table will be found on pages 465-7.

and overloaded with others in the middle of the selling season. To build certain types for the city markets only is deemed impracticable in some instances, because it complicates factory routine. Therefore failure of the sport car to give a good account of itself in general may mean its withdrawal from many lines before another year rolls around. On the other hand, a conspicuous leaning toward it in a majority of territories may result in its being even more substantially incorporated into some lines. Sales of the next few weeks, therefore, will have a good deal to do with deciding its fate.

As a used car the sport model presents another angle to resale problems. Dealers have discovered that used car buyers chose standard phaetons in preference to used sport models whose erstwhile brilliant trappings have become somewhat dingy with age. Some dealers who made extra allowances because they were the higher priced cars when new, found themselves saddled with the cost of repainting and adding new sport equipment to effect resales.

TIRE MAKERS PAUSE AS FIRESTONE CUTS

Ten Per Cent Reduction a Move in Fight on British Regulation—Others Reluctant to Follow—Take Time to Study the Situation.

Tire manufacturers are giving serious thought to the matter of reducing prices, having been forced to do so by the impetuous action of H. S. Firestone this week in declaring a ten per cent reduction on the line that bears his name. When any manufacturer of consequence announces a cut at the very turn of the selling season, other manufacturers are bound to take notice, because dealers everywhere are rendered uneasy and are led to expect new terms more favorable to the consumer. Failing to get them, maintenance of lists becomes increasingly difficult.

This is a plain statement of facts which are generally recognized. But if Firestone's expectation was that the trade would forthright come tumbling down after him, he may be mistaken. This, at least, was gathered by AUTOMOBILE TOPICS after conversations with several influential tire men late in the week.

Up to Thursday news of a decrease of seven to 10 per cent had come from Miller, together with intimations that Fisk, Kelley-Springfield and Mason would soon follow suit. Other concerns pretty generally admitted they were thinking it over, but had refrained from making definite decisions.

Firestone's move was set forth as "one of the outstanding results of the campaign against the British crude rubber restriction act." His contention is that the increase of crude rubber to 37 cents a pound last Fall was the result of artificial market stimulation in consequence of the Stevenson Plan. Its recent decline to 28 cents, is described as reflecting the efforts of Firestone and his associates in opposition to the Plan and in inducing the United States Government to take measures looking toward the cultivation of rubber on American soil.

"It is this lower cost of crude rubber and further economies in manufacturing which Mr. Firestone says have enabled his company to announce a ten per cent reduction in tire prices at this time," is stated on behalf of this energetic and single-minded manufacturer.

Commentators in the tire business are careful to refrain from suggesting that the Firestone reduction was dictated by any other motives than those declared, or that lower prices might serve a selfish purpose in his case in speeding up sales. They do say, however, that tire sales have suffered markedly by reason of the backward Spring. They further point out that dealers in general are more or less demoralized, and they explain in great detail how this has come about.

(Continued on page 426, second column)

FISHER BODY INCOME IS NEARLY TREBLED

Annual Statement Shows Net Income of \$17,172,176 Against \$6,193,454—Assets Greatly Outdistance Liabilities—Net Earnings \$20,591,666.

Annual report of the Fisher Body Corp. and subsidiaries for the fiscal year ended April 30, 1923, shows net income of \$17,172,176, after taxes and all charges, which is contrasted with \$6,193,454 in the previous year. Net earnings of \$20,591,666 are shown against \$9,155,545 in 1922.

Current assets are shown by the statement

FISHER BODY CORP. AND SUBSIDIARIES

Consolidated Balance Sheet, April 30

ASSETS		1923	1922
Prop & plt.	\$38,360,025	\$21,601,752	
Good will	3,042,524	2,498,834	
Patents	138,845	155,108	
Investments	423,617	4,376,549	
Red Funds	7,544,774		
Mat & sup.	24,801,476	12,655,553	
Skg. Fund	64,319		
Notes rec.	1,000,000	2,000,000	
Accts rec., etc.	13,584,279	5,477,389	
Pfd. stock purchase			120,000
Gov. secur. etc.			7,254,249
Cash	7,674,720	1,850,070	
Def. chgs.			1,693,207
Total	\$98,484,649	\$57,832,641	
LIABILITIES		1923	1922
Pfd stock \$2.	\$2,111,200	\$3,150,800	
†Common stock	29,711,325	29,711,325	
Cap. stock of sub cos.	8,874,769		
Other fund debt.	5,251,485	8,250,000	
Gold notes‡	20,000,000		
Notes pay.		2,560,000	
Accts., wages, etc.	12,854,891	4,312,571	
Res. for tax.	2,480,000	1,449,291	
Reserves	1,443,129	1,859,300	
Surplus	15,757,850	6,795,211	
Total	\$98,484,649	\$57,832,641	

*Called for redemption. †Due 1924-1928. ‡Represented by 500,000 shares of no par.

to have been \$47,060,474 and current liabilities were \$15,334,890, on April 30, leaving net working capital of \$19,501,184. Current assets include inventories of \$24,801,475, compared with \$12,655,552 in the previous year. Customers' accounts, notes receivable, etc. are given a total of \$13,584,278, against \$5,477,388 in 1922.

Cash in banks and on hand amounted to \$7,674,720, which is compared with \$7,354,249 last year. Principal items in current liabilities are accounts payable, accrued payrolls and accrued interest of \$12,795,930. Last year this same item totaled \$4,312,570. No outstanding notes are shown on the last statement, against \$2,560,000 in the year preceding.

Offers Stock to Employees

Westinghouse Electric & Mfg. Co has perfected a plan whereby all employees may participate in the purchase of a new issue of 20,000 shares of common stock. This may be bought on the deferred payment plan at \$53 a share. Par is \$50. Each employee may take from one to 20 shares paying in 10 months. Plan is operative August

1, and purchasers' dividends, when stock is paid in full, will be made retroactive to that date.

Revere Rubber Finances Strong

Revere Rubber Co. has justified with the Massachusetts commissioner of corporations its financial statement as of December 31. Total assets and liabilities of \$4,995,648 are shown. Cash and debts receivable of \$3,918,734 are shown against accounts payable of \$51,779.

UNITED & GLOBE RUBBER REORGANIZATION PLANNED

Creditors and Stockholders Agree to Continue Company's Affairs

Creditors of the United & Globe Rubber Corp. and stockholders have agreed to formulate plans for the continuance of the Company's affairs and assurance has been given that the operations and business will proceed as heretofore. J. Philip Bird, president of the Manufacturers' Assn., has been selected as chairman of the new executive committee.

Creditors have appointed a committee and detailed plans are rapidly taking form. It is expected that the auditor's report of the Company's status will be forthcoming very soon. Statement of the definite plan will follow the issuance of this statement.

MITCHELL SCHEDULE FILED

Detailed Financial Status Revealed

Detailed schedule of liabilities and assets of the bankrupt Mitchell Motors, Inc., as disclosed by AUTOMOBILE TOPICS recently show liabilities of \$3,960,240 and assets of \$3,742,722. Secured liabilities amount to but \$24,908. City and county taxes of \$183,634, and Federal taxes of \$58,088 are among the liabilities.

The Company's largest asset is a stock of finished and unfinished automobiles and raw materials, which is appraised at \$1,617,598. Real estate is worth \$980,869; machinery \$958,558; accounts receivable \$73,210; notes \$43,013, and unliquidated claims \$39,394.

DIVIDENDS DECLARED

Allis-Chalmers Mfg. Co., Inc.—Quarterly dividend of \$1.75 on the preferred stock; payable July 16, 1923, to stockholders of record June 23, 1923.
J. I. Case Threshing Machine Co.—Regular quarterly dividend of \$1.75 on the preferred stock; payable July 1, 1923, to stockholders of record June 11, 1923.

Chandler Motor Car Co.—Regular quarterly dividend of 25 cents; payable July 2, 1923, to stockholders of record June 20, 1923.

Eaton Axle & Spring Co.—Regular quarterly dividend of 65 cents; payable July 1, 1923, to stockholders of record June 15, 1923.

Fisher Body Ohio Co.—Regular quarterly dividend of \$2 on the preferred stock; payable July 1, 1923, to stockholders of record June 15, 1923.

General Electric Co.—Regular quarterly dividend of \$2; payable July 14, 1923, to stockholders of record June 6, 1923.

General Motors Corp.—Regular quarterly dividends of \$1.75 on the 7% debenture, \$1.50 on the 6% debenture, and \$1.50 on the 6% preferred; payable August 1, 1923, to stockholders of record July 9, 1923.

SECURITIES QUOTATIONS

Published quotations of the more active automobile securities traded in the New York and Detroit markets are listed below. These figures represent the high and low points respectively, as recorded in those markets during the week ended June 14. They are presented for purposes of comparative record only, as being more nearly indicative of the general market trend than the day-by-day quotations of the ordinary stock report. Unlisted as well as listed securities are included wherever possible. New York quotations follow:

	High	Low
Advance Rumely, common	13½	12
†Advance Rumely, preferred	42	41½
Ajax Rubber	11	8¾
Allis-Chalmers, common	42¾	40¾
Allis-Chalmers, preferred	93	92½
American Bosch Magneto	40¾	37½
Case (J. I.) Plow	1½	1½
Case (J. I.), T. M., preferred	75	72½
Chandler Motor	61¾	59½
Chicago Pneumatic Tool	80¾	79½
Cleveland Motors	29¾	28¾
Continental Motors	10	8¾
Durant Motors, common	54¾	46
Durant Motors of Indiana	12	12
Earl Motors	75	75
Fisher Body, common	164	162
Fisher Ohio Body, preferred	102	98¾
Fisk Rubber	11¾	11½
General Electric, common	184	175
General Electric, special	11	10¾
General Motors, common	15	14¾
General Motors, preferred	85	84¾
General Motors 7% deb.	99	98
Glidden Co.	7¾	7¾
B. F. Goodrich, common	31¾	28
B. F. Goodrich, preferred	90	88¾
Goodyear, common	98	97
Goodyear, preferred	54¾	49
Gray & Davis	10½	9½
Hayes Wheel	38½	35½
Hudson Motors	25¾	24½
Hupp Motor Car	22¾	21¾
International Harvester, new	79½	74¾
*Kelly-Springfield Tire, common	46¾	41¾
Kelly-Springfield Tire, preferred	97½	97½
Lee Rubber & Tire	24¾	23¾
Mack Trucks, common	81¾	77
Mack Trucks, 2nd preferred	87	87
Marlin-Rockwell	12½	10
Maxwell Motors, Class A	48¾	46
Maxwell Motors, Class B	16	15¾
Mercer Motors	55	50
Moon Motors	28	26
Mullins Body	20¾	19½
Nash Motors	98¾	98
National Acme Co.	12¾	12¾
Packard Motor Car	13	12¾
Parish & Bingham	11¾	10¾
Peerless T. & M.	40¾	40¾
Pierce-Arrow, common	10½	9¾
Pierce-Arrow, preferred	24	20¾
Reo Motors	15½	15½
Reynolds Spring	22	20
Spicer Mfg.	17½	17
Stewart-Warner Speedometer	94¾	88¾
Stromberg Carburetor	75¾	69
Studebaker, common	113¾	108¾
Studebaker, preferred	114	114
Stutz Motor	17	16¾
Timken Roller Bearing	39¾	37¾
U. S. Light & Heat	1¾	1¾
U. S. Rubber, common	52¾	48
U. S. Rubber, preferred	100¾	99½
Westinghouse Electric & Mfg.	58¾	55¾
White Motors	53¾	52¾
Willys-Overland, common	6¾	6½
Willys-Overland, preferred	64¾	61¾

*\$25. †\$50.

Prices for automobile securities quoted in Detroit up to June 12 follow:

	High	Low
Auto Body	2	1½
Bower Roller Bearing	9½	9
Charcoal Iron, common	1½	1
Charcoal Iron, preferred	3¼	3¾
Columbia Motors	2¾	2
Edmund & Jones	35	34
Federal Truck	27	20¾
Ford of Canada	433	425
Hall Lamp Co.	28¾	28
Motor Products	108	97½
Murray Mfg.	20¾	19½
Packard Motor, preferred	92	90
Paige-Detroit Motor Car	19½	18¾
Timken Axle, common	10½	10
Timken Axle, preferred	87¾	86¾
Truscon Steel, common	19½	18¾
Truscon Steel, preferred	10¾	9¾

TEMPLAR PLANS ARE ALMOST COMPLETED

Stockholders Form Committee to Revive Company's Affairs—Stronger Financial Structure Planned—New Money to be Used for Working Capital.

Twenty-five leading stockholders of the Templar Motors Co., of Cleveland, have formed a reorganization committee and are back of the plan to revive it, described last week. Details of the reconstruction of the Company are rapidly taking shape. General business conditions are, in the opinion of the stockholders, such as to justify the successful restoration of this line to the market.

It is understood that present stockholders will be offered \$2,500,000 in seven-percent first preferred stock at \$50 a share. Money thus obtained will be used solely for working capital.

It is understood that several agreeable changes in the line are being contemplated. Reduction in the price of the present four-cylinder car is proposed without eliminating any of the essential features so well known in the Templar line. Back of the reorganization project is T. L. Hausmann, the receiver, whose efforts to carry it along have been thus far successful to a marked degree. Confidence is expressed that adequate support will be forthcoming to re-establish the concern in its rightful place in the industry.

Ford Investors Get 8 Per Cent

Special return of five per cent will be paid on Ford investment certificates for the period ending June 30, according to the *Ford News*. This is in addition to the guaranteed semi-annual rate of three per cent, and makes, therefore, total rate for the period eight per cent. These certificates are sold only to Ford employees.

Stutz Affairs on Sound Basis

For the first time since Charles M. Schwab took control of the Company, the Stutz Motor Car Co. is on a profitable basis. Profits in April and May offset a deficit caused by extraordinary expenses in connection with marketing the new popular-priced six-cylinder car. More than 11,000 cars were shipped in the first five months of the current year.

Reo Has Biggest Month

May was the biggest month in the history of the Reo Motor Car Co. More than 4,000 cars and trucks were produced and sold. President Don E. Bates predicts that June will make equally as good a record. Daily production runs between 150 and 175 units.

Study Hardwood Requirements

R. E. Brown, of the Fisher Body Corp., and two representatives of the Forest

Products Laboratories are working in the Fisher plant in Detroit on a survey of the hardwood requirements of the Company. Plans will be worked out to extend the survey to other companies with a view of determining the requirements of the automotive industry for cut-up sizes of hardwood lumber for body framing.

PERFECT REGULATOR SUIT VS. TERNSTEDT DISMISSED

New York Supreme Court Rules in Favor of Fisher Body Subsidiary

Suit for \$2,000,000 brought in the New York Supreme Court against the Ternstedt Mfg. Co., of Detroit, a subsidiary of the Fisher Body Corp., by the Perfect Window Regulator Co., was dismissed this week. Justice Lehman dismissed the bill when the plaintiff failed to show damage sustained by the Ternstedt company's use of certain patents, as alleged.

Perfect Window Regulator Co. based its suit on contracts existing before the organization of the Ternstedt company in 1917. The holder of the patents for a window lowering and raising device had done business with the Perfect firm but went to Detroit and solicited aid of the Fisher Body Corp. Ternstedt company was then formed and patents acquired for an improved device. Company has flourished since and its device is used on most of the larger automobiles.

Second Dividend by Rickenbacker

Rickenbacker Motor Co. directors have authorized the payment of a two per cent cash dividend to stock of record June 30. This is the second two per cent dividend this year for this Company, which is but 18 months old.

OHIO QUOTATIONS

Prices for automobile securities quoted in Cleveland during the week ended June 13 are as follows:

	High	Low
Bishop & Babcock.....	15	11
Dow Chemical, common.....	48	44
Dow Chemical, preferred.....	94	94
Firestone, common.....	75	74
Firestone, preferred (6).....	97½	97½
Firestone, preferred (7).....	95	90½
Fisher Ohio Body.....	150	125
General T. & R., common.....	175	170
General T. & R., preferred.....	100	100
Jordan Motors, common.....	285	270
Jordan Motors, preferred.....	90	80
Miller Rubber, preferred.....	104	102
F. B. Stearns.....	21	19½
W-S-M, common.....	20	20
W-S-M, preferred.....	50	48
Winton, preferred.....	22½	18

Prices for rubber securities quoted in Akron during the week ended June 12 are as follows:

	High	Low
American R. & T., common.....	10	10
American R. & T., preferred.....	50	50
Amazon Rubber.....	3½	2½
India Rubber, common.....	96	92
India Rubber, preferred.....	95	89
Marathon Rubber, common.....	3	1½
Mason T. & R., common.....	5½	5
Mason T. & R., preferred.....	37	35
Mohawk Rubber, common.....	16	12
Mohawk Rubber, preferred.....	66	60
Seiberling Rubber, common.....	7¼	7
Seiberling Rubber, preferred.....	65	60
Swinehart T. & R., preferred.....	50	40

BRIGGS MAY ACQUIRE MICH. STAMPING CO.

Consolidation Would Form One of the Largest Concerns in Industry—Walter D. Briggs Would be President—Details Being Worked Out by Officers.

Officers of the Briggs Mfg. Co., body manufacturers, and the Michigan Stamping Co., makers of metal stampings for bodies, both of Detroit, are working out details of a merger that will make this one of the largest concerns of its kind in the country. The stamping company will be known as the Michigan Stamping Division of the parent Company, with Walter D. Briggs as president and general manager.

Under the consolidation plan Briggs concern is acquiring the common stock of the stamping company, paying in part with Briggs stock. No financing is involved in the deal. Companies have been in close commercial connection for some time.

It is expected that the consolidation will secure greater economy and efficiency in the operation of both. Briggs has three plants covering 30 acres and employs about 12,000 men. Michigan Stamping Co. covers 35 acres and has about 2,000 men on its payroll.

PRODUCTION RECORDS AT OLDS PLANT AT NEW HIGH

Figures for First Five Months 39 Per Cent over Last Year

Production records at the Olds Motor Works, Lansing, Mich., for the first five months of the current year have established a new high record for the Company, being 39 per cent greater than in the same period last year. President A. B. C. Hardy declares that the current output of 150 cars a day is inadequate to meet demand.

Added activities at the factory are caused by preparation for the forthcoming introduction of a new water-cooled six to the present line, as told last week in *AUTOMOBILE TOPICS*. This will round out the line and place the dealers in a position to take advantage of the full range of sales to which the prestige of the Oldsmobile name entitles it.

Theft Ring Broken by Law

Department of Justice operatives in the Louisville, Ky., territory declare they have broken up one of the most comprehensive automobile theft organizations as yet discovered. The "ring" is said to have operated with a 1,000-mile radius of Louisville and supported a large organization of financial supporters and "fences." Twenty-five owners, some from points as far away as Minneapolis, have been summoned to appear in the Federal Court at Louisville to appear against 12 alleged members of the theft band.

PLAN FOR WILLS CO. IS NEARLY COMPLETE

Merchandise Creditors to Get 100 Per Cent in Prior Preferred—Cash of \$3,845,000 Expected—Banking Syndicate to Provide Funds.

Reorganization plans for C. H. Wills & Co., Marysville, Mich., which will insure the continued production of Wills Sainte Claire cars, are rapidly nearing completion. It is proposed to form a corporation with authorized capital of \$5,000,000, seven-percent prior preferred, cumulative after July 1, 1924; \$5,000,000 six-percent first preferred, cumulative after the same date; \$5,000,000 six-percent second preferred, non-cumulative but convertible into common stock at \$30 a share, and 400,000 shares of no-par common stock.

The plan proposes to give merchandise creditors 100 per cent of their claims in first preferred stock. The revolving credit holders, totaling \$4,400,000, are to get 50 per cent, or \$2,200,000 in second preferred. First preferred shareholders, under the plan, will get 40 per cent of their claims in second preferred, taking \$800,000.

Cash of \$1,925,000 is expected to be raised by the sale by a banking syndicate of prior preferred, second preferred and common stock. It is also planned to raise \$1,920,000 cash by holders of the \$4,400,000 revolving credit and present first preferred stockholders subscribing to the new prior preferred stock. This will give the Company a total of \$3,845,000 cash.

ERSKINE BIDS FOR PRESIDENT HARDING

(Continued from page 419, second column)

gram, which of course should be wisely worked out. . . .

"Revenues might be more equitably raised by reducing surtaxes to 25 percent maximum, as the President recommended and by adopting sales taxes. Many congressmen who shudder at the suggestion of a general sales tax voted in 1921 to retain the five per cent sales tax on automobiles and parts thereof which has been in effect six years, and many states have enacted sales taxes on gasoline.

"Our legislators do not hesitate to single out the automobile industry for discriminatory and therefore unfair sales taxes, and licenses taxes (in addition to property taxes), which this year will exact altogether \$500,000,000 from automobile owners, who are supposed to be rich and able to pay the bill. It is not too much to say that our legislatures, both national and state, have since the inception of the automobile done everything within their power by taxation to curtail its use and cripple the industry. The industry has succeeded in spite of them. . . .

"The prospect is that 1923 will be the most prosperous year in the history of the United States, and furthermore, that our volume of business this year will establish a record never before reached by any nation on earth. The maintenance of this prosperity should be the most vital concern of the constructive and educational forces of the Country. It transcends in importance all political questions which agitate us, such as the Ruhr settlement, whether we shall join the world court, whether Ford will be a candidate for president, the League of Nations, and others which are characteristic of the kind of things that usually occupy our minds.

"The truth is that this enduring question of business prosperity has never been given the constant attention it deserves, and widespread distress and discontent have frequently beset us for our neglect. We have suffered business depressions which might have been mitigated or avoided altogether, and have come to the point of danger where some people accept the so-called 'business cycles' of the past as fate, and go so far as to suggest unemployment doles to tide over depressions. . . .

"Even now, so-called economists, business cycle theorists, chart readers, financial writers, and some bankers are predicting our prosperity will end next Fall or in one year or two years. They have no grounds for these predictions except the precedent that prosperity has always ended heretofore. Our inelastic financial system artificially caused panics before the creation of our Federal Reserve banking system with its flexible credits and currency. Panics induced by over-expansion of loans, withdrawal of credits, or restricted supply of money, are highly improbable, if not impossible, under our present banking system.

"Why, then, should not our present prosperity continue indefinitely? It will if the psychology of the Nation is properly directed."

TIRE MAKERS PAUSE AS FIRESTONE CUTS

(Continued from page 423, third column)

When prices were last advanced, the realignment of the trade was both slow and irregular. Datings got mixed in some cases, so that the retailers, even on lines that had been advanced nominally, were uncertain when to begin selling at the new levels. The movement was inaugurated in the middle of March, for example, but Firestone held off until the first of May.

This disturbance of mind, therefore, was hardly settled, and assurance of better sales with warmer weather had only just begun to cheer the more discouraged members of the retail fraternity, when this new idea of a return price movement was thrust upon them. Those conservative spirits in the industry who believe in the old adage, "Never swap horses while crossing a stream," naturally hesitate to follow the line of newspaper suggestion by starting a "price war."

"The tire business is no place to start a

POINTS TO DANGER IN BALLOON TIRES

B. F. Goodrich Co. Sees Disadvantage of Too Sudden Introduction of New Product—Much Development to Be Done—Idea Is Called an Old One.

Corroborating the trade view expressed by AUTOMOBILE TOPICS that there is a potential danger in the sudden introduction of so-called "balloon tires" the B. F. Goodrich Rubber Co. calls attention to the manifested interest of the public in this new project in tire building. Emphasis is placed on the fact that the balloon or "doughnut" tire is still in a stage of development and that much more experimental work remains to be done before the product can be successfully marketed.

Experimental engineers of the Company say the development of this new tire has not progressed far enough to enable one to say what its future is. In the automotive field, where constant development is the rule of the day, none dares play the role of prophet, they say.

Goodrich engineers recall having experimented with balloon tires in the early part of the present century. The idea was then discarded because road development and automobile construction and designing had not progressed to the point where a practical application of the idea was feasible. The cord principle was then developed and given to the industry in the form of the Silver-town cord tire.

price war just now," as one close observer expressed it. "Tire prices should be adjusted in the Spring or Fall, when trade is least likely to be upset, rather than at the very beginning of the best period of the year for making retail sales. Furthermore, profits of the business have been on so narrow a margin thus far this year that it is a good deal of a question how much of a reduction could be introduced without serious loss of revenue."

From this and other indications it is gathered that the more conservative element in the industry is studying the various aspects of the dealer mind in an effort to determine how much reduction, if any, is necessary merely to stabilize the situation. Retaliation against Firestone apparently is out of consideration and concessions, when and as made, will be made purely in the interest of internal harmony.

Talk of a "price war" always balks sales, both retail and wholesale. Therefore it is always deplored, all the more so when unjustified.

In this case, it may be said that far from being justified, the general effort will be to prevent such a conflict, which inevitably would be bloodthirsty and perhaps disastrous to the smaller and less secure interests, but, on the contrary to proceed with both caution and moderation.

SHIPMENTS EXCEED PREVIOUS RECORDS

During May 46,075 Carloads Were Shipped and 60,550 Cars Driven from Factories—Boat Shipments Show Gain—Six Per Cent Higher Than April.

Shipping reports of the National Automobile Chamber of Commerce show that May surpassed any previous month in the history of the automotive industry for carload lots, driveaways and shipments by boat. The increase shown is six per cent over April and 59 per cent over May last year and indicates the total production of 404,992 passenger cars and trucks for the month.

During May 46,075 carloads were shipped against 44,977 in April. Driveaways totaled 60,550 as compared with 59,522 in the previous month. The greatest percentage of increase is shown in shipments by water which rose to a total of 12,050 in May from 4,869 in April. The general clearing of ice in the Great Lakes and the full operation of navigation has made this sort of shipment exceedingly popular with automobile manufacturers. As has been shown by AUTOMOBILE TOPICS, it is becoming the custom to ship cars from Detroit by boat to the nearest lake port to the destination, and drive the remainder of the distance overland. Crating is done away with in fresh water shipping.

Revenue carloadings reached 1,014,029 in the week ending May 26, making it the third largest week's loading. This total is within 4,510 of the record week, which ended October 15, 1920. From the first of the current year until May 26, 19,035,772 cars were loaded with revenue freight, compared with 15,866,677 in the same period last year. The following table shows comparative automobile figures for the past three months:

	Carloads		Driveaways		Boat	
	1923	1922	1923	1922	1923	1922
Mar.	44,372	27,753	62,656	16,917	1,940	560
Apr.	44,977	31,334	59,522	22,381	4,869	2,960
May	46,075	33,416	60,550	28,827	12,050	7,406

*Partly estimated.

Massachusetts May Get Referendum

Massachusetts' proposed gasoline tax is a proper matter to go before the people on a referendum, as it is not an appropriation law, Attorney General Benton has advised the Secretary of State of that commonwealth in a special opinion. As recently told in these columns, Boston dealers requested a referendum in a presentation to the Secretary.

Glidden Reports on Six Months

Net sales profit of the Glidden Co. for six months ended April 30 was \$951,538. Net profit after all charges, including interest,

Federal tax and reserves, was \$445,106. Since the Company's fiscal year begins November 1, this report covers operations during five cold and unseasonable months. The last six months constitute the real paint and varnish consuming season.

Protests Pandolfo's Pardon

Protesting against a pardon being given S. C. Pandolfo, now in the Federal pen at Leavenworth, Kansas, a resolution was adopted by the advertising convention last week at Atlantic City. He was president of the Pan Motor Co. of St. Cloud, Minn., and was sentenced after being convicted of using the mails to defraud. Formal application for pardon has been made. He has served but six months of a 10-year sentence.

Overland Training Sections Active

To develop trained workmen in its factory the Willys-Overland Co. is operating 50 training sections throughout the Toledo plant. One of the most successful of these groups is in the radiator department where a large force of men is being trained in all of the details of that work. Recently 40 men "graduated" and have taken places on the regular force. Similar training groups are working in nearly every other department of the factory.

Plan Widespread Bus System

Eastern Massachusetts Street Railway Co. has obtained license from the state department to acquire a fleet of buses and maintain passenger schedules between 71 specified cities and towns in Eastern Massachusetts. Permission was granted dependent upon the Company's success in obtaining licenses from cities and towns.

Ohio Passes Pedestrian Law

Fostered by the Ohio State Automobile Assn., a law has been enacted in the Buckeye State, making it unlawful for pedestrians to walk on or cross a highway except at crossings and cross walks. The law also directs that pedestrians shall obey all lights, signals, signs, whistles and directions of police officers and that they shall not step upon a public highway without looking in both directions. A maximum penalty for the first offense is \$25, which becomes the minimum in the case of a second offense with a \$100 maximum.

B. C. Road Allowance Large

Spending \$2,300,000 for road building this year, British Columbia is more than doubling the amount spent in 1922, according to W. H. Sutherland, minister of public works. Of the total sum \$1,396,000 will be used on highway extension, \$700,000 on bridges and culverts and approximately \$200,000 on settlers' roads.

LEE RUBBER TAKES OVER REPUBLIC TIRE

Organization of New Company Completed at Youngstown, O.—Receiver of Old Company Becomes President of New Firm—Officials Named.

Organization of the Republic Rubber Co. subsidiary of the Lee Rubber & Tire Co., to take over the property and assets of the defunct Republic Rubber Corp., Youngstown, O., has been completed. The property was purchased from the receiver a few days ago, after the Lee stockholders voted to increase the financial structure of the Company from 150,000 to 300,000 shares of common.

Directors of the new company are John J. Watson, Jr., A. A. Garthwaite, H. E. Field, New York; John Kearns, Philadelphia; C. H. Booth, Ed. F. Fitch, J. H. Connors, L. A. Watts and J. T. Harrington, of Youngstown. Youngstown members of the board have all been previously identified with the Company, Booth having been the receiver. Eastern members are identified with the parent concern.

Officers are: John J. Watson, Jr., chairman; C. H. Booth, president; Ed. F. Fitch, vice-president; A. A. Garthwaite, vice-president; C. F. Garrison, secretary, and H. H. Stambaugh, treasurer. The new company will have 50,000 shares of no-par common stock all owned by the Lee Rubber & Tire Co. Sixty-five thousand shares of the parent concern's new capitalization have been issued to finance the taking over of the Republic Company. Additional improvements and equipment are to be added and operations will go forward at an early date.

Reynolds Spring Business Mounts

Directors of the Reynolds Spring Co., Jackson, Mich., at a meeting last week reported that a careful survey of the Company's business indicates that the last half of the current year will bring earnings in excess of any six-month period in its history. Current operations are at almost capacity rate and a comfortable volume of unfilled orders adorns the Company's books.

Argentina Leads South America

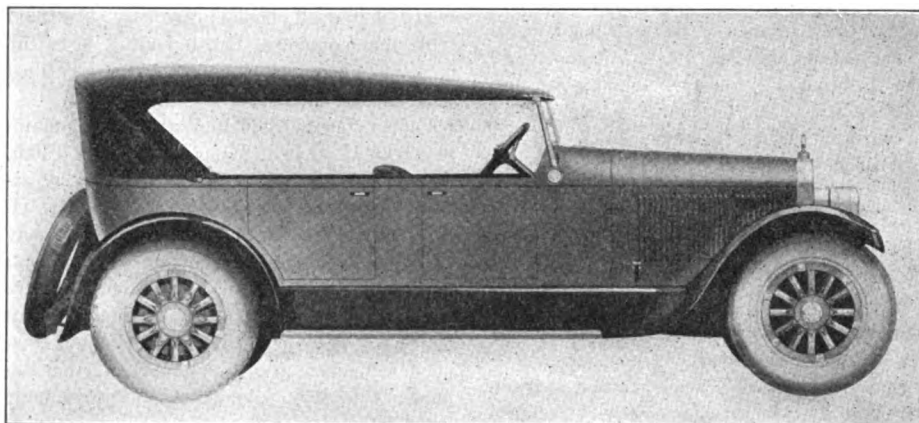
George S. Brady, trade commissioner of the United States Department of Commerce, avers that Argentina possesses more motor vehicles than any other South American country. It is estimated that there are now 65,000 passenger cars, 20,000 delivery cars and 2,400 heavy trucks in service there. These figures make that country sixth in the world's registration. Buenos Aires has 12,356 passenger cars, of which 6,230 are taxicabs.

NEW STERLING MODEL HAS UNIQUE POINTS

Seven-Bearing Crankshaft and Rubber Shackles Included—New Factory at Warren, O., Under Way—To Sell at \$1,985 F. O. B. Factory.

Details of the new Sterling-Knight six, which is going into production at the recently acquired plant of the Sterling-Knight Co. at Warren, O., have just been made public. Among the unusual features of its construction are a seven-bearing crankshaft and rubber shock insulators, or shackles. The motor, of course, will be a Knight-type six, $3\frac{3}{4} \times 4\frac{5}{8}$ in., of 25.35 horsepower, S. A. E. rating, and developing 50 horsepower on the block test. The cylinders are cast en bloc.

Like the crankshaft, the camshaft also has seven bearings. The motor has battery ignition and uses a thermo-syphon cooling



New Sterling-Knight phaeton is attractive addition to this year's models

system. Semi-elliptic springs are used fore and aft. Patented rubber devices replace shackle and spring bolt construction and require no attention during life of the car.

Multiple disc clutch is used. Transmission has three speeds forward and reverse, selective, and is guarded by a thief-proof lock. Worm and gear irreversible type steering gear is used, with all-wood wheel and finger tip spark and throttle control. Timken front and semi-floating rear axles are included. Conventional brake construction is furnished on $15\frac{1}{2}$ inch drums. Wheels are of the artillery type and carry $32 \times 4\frac{1}{2}$ cord tires. The body is Sterling blue and the fenders are black enamel. Wheel base is 125 inches. Tentative price is \$1,985 f. o. b. Warren, O.

Duesenberg Straight 8 Gaining

Sales of the Duesenberg Automobile & Motors Co., Inc., for the first five months of this year were greater than for the entire 1922 year by $7\frac{1}{2}$ per cent. May was the largest month the company has had, sales in that one month alone being better than one-third of the total number sold in the twelve months of last year. The actual

sales figures show the company is making steady progress right along. Deliveries are running at least six weeks behind orders.

ESTIMATES RUBBER CROP THIS YEAR 380,000 TONS

Welch of British Rubber Body Styles Restriction Temporary Relief

This year's rubber crop is estimated at 335,000 tons of plantation and 25,000 of wild rubber by H. J. Welch, chairman of the Rubber Plantations Investment Trust, according to London news cable. He considers 400,000 tons about equivalent to increased consumption. He favors restricting production to maintain a pivotal price of 1s 3d a pound, and would not raise the price much, as that would stimulate production in the Dutch East Indies, Brazil and other regions.

The economic editor of the London *Times* recently stated that limiting production is of dubious and negative benefit. To this Welch replies that restrictions are intended merely

as a temporary palliative to restore rubber's economic health after over-production.

Moon Prices Did Not Advance

The Moon Motor Car Co., Inc., St. Louis, did not advance its prices as of June 1 as was widely reported last week. Publication of new lists was due to the fact that Moon had advised its distributors in May that advances might be necessary and to be prepared for a revision June 1. Toward the end of the month, however, dealers were notified that there would be no change. This latter notice did not reach the press whereas the former did, and when the first of June came around with no statement to the contrary, it was erroneously assumed the advance had gone into effect. Prices on all models therefore remain as follows:

"6-40" SERIES

Touring (5)	\$1,295
Roadster (2)	1,295
Sport-touring (5)	1,495
Coupe (4)	1,585
Sedan (5)	1,695
Sport-sedan (5)	1,895

"6-58" SERIES

Touring (7)	\$1,785
Sport-touring (7)	1,995
Sport-phaeton (5)	1,995
Sedan (7)	2,485
Petite sedan (5)	2,585

MANY WILL ATTEND S. A. E. SUMMER MEET

Nearly 700 Reservations Booked Already—Technical Program Whipped Into Shape—Special Trains and Rates Available for Members.

Spontaneous response has been forthcoming to the announcement of the Summer meeting of the Society of Automotive Engineers to be held at Spring Lake, N. J., June 19 to 22, inclusive. Nearly 700 reservations have already been made and unusual interest is being manifested in this year's meeting. The technical program has been well whipped into shape and contains only those matters of greatest general urgency and interest.

The standards committee will take up the morning and afternoon sessions of the first day, with the semi-annual meeting, dancing and motion pictures in the evening. Sports programs will feature the daylight sessions of the second day, with the air-cushion tire session, dancing and pictures in the evening.

The four-wheel brake session and demonstration will be held on the third morning, with the annual field day in the afternoon and the headlight glare session and entertainment in the evening. On the morning of the concluding day the engine and fuel session will be held. Swimming carnival and finals in all sports will be held in the afternoon, with prize distribution, dancing contests and a grand ball in the evening.

Reduced railroad fares have been arranged for members. Two excellent hotels will amply accommodate the guests and facilities for golf, tennis, swimming and many other forms of diversion are in abundance.

Prospects Good in South Africa

Prospects for South African automotive trade in 1923 are much better than last year, because of general improvements all around, according to the Department of Commerce. Car importations should be fully 6,000, says the report, as compared with some 5,000 sales in 1922, made up of cars in bonds and imports of 4,840 vehicles. Imports in January, 1923, were 494 cars and trucks, furnished as follows: Canada, 250; United States, 233; Great Britain, 6; France, 5, and Germany, 4. The United States' shipments were valued at £40,800 as against £34,964 for Canada's.

Montana Road Funds Approved

Expenditures totaling \$342,000 of national forest highway funds for five road-building projects in Montana have been approved by the Secretary of Agriculture. This money makes available, new roads serving the national forests and better roads within or adjacent to the forests.

FORD PAYMENT PLAN ATTACKED BY BANKER

President of National Assn. Assails \$5-Down Scheme—Defends Christmas Club Theory—Says Plan Breeds Increasing Expense.

Describing Henry Ford's partial payment plan as a "monstrous scheme," George E. Brock, president of the National Assn. of Mutual Savings Banks, at the fourth annual conference in Buffalo; June 7, vigorously attacked the \$5-down system of purchasing an automobile. The attack was made in the president's annual address. Relative to the Ford plan Brock said:

"A most astounding proposition has been put forth by one of our large automobile manufacturers, and many commercial banks throughout the country have been drawn into the scheme, which is to encourage people to save \$5 each week until 25 per cent of the cost of an automobile has been saved, at which time a car will be delivered, to be paid for within a year by 10 or 12 equal monthly payments. It is claimed by those who are promoting the scheme that they are applying the Christmas Club theory to the purchase of an automobile. That sounds well, but it is far from the truth. Go back as far as any of us can remember, and you will find it the custom of many people on Christmas Day to celebrate the birth of our Lord by exchanging presents. Those presents are bound to be purchased. If one has the cash for them well and good, if not the cash, they will run in debt for them. Now the Christmas Club is designed to teach people that they are able to save something throughout the year, and at the end of the year have the cash in hand with which to purchase their presents. It is the difference between having the money in hand and running in debt. Fundamentally it is a lesson in thrift.

"How about this new and novel scheme? Save up \$125 or \$150 and then you have placed upon you a decided liability because the burden grows increasingly heavy as the months go by, for in addition to your monthly payments you have the cost of upkeep. It is a fallacious scheme to draw the unthinking into a network of ever increasing expense."

Ford June Orders at Record

Orders for June delivery of cars and trucks on the books of the Ford Motor Co., totaling 311,000 for the month, present what is called the greatest task of the Company's career in attempting to build this total. Current schedules call for 6,700 units daily. During the week ending June 5, production was in excess of

6,700 daily and made a total of 34,730, for the short week, due to Memorial Day. Fordson tractors produced totaled 1,930. Lincoln division produced 157 cars.

Abeles Forms Motor Improvements, Inc.

James A. Abeles, a former prominent figure in the Eastern equipment trade, has returned to the industry as president of Motor Improvements, Inc., Fisk building, New York city. The new organization will handle all development work, manufacture and sale of a new automotive device, detailed announcement of which is expected shortly. It is understood that strong interests are associated with Abeles in this enterprise. He was best known through his connection with the Motor Car Equipment Co., New York, of which he was vice-president and general manager, and was later with Beckley-Ralston.

Steel Products Output Large

Largest spring production in the history of the Detroit Steel Products Co., makers of motor car springs, was recorded in March, April and May. Total output ran about 550,000 springs.

Cole Revises Its Prices

Under new price schedules of the Cole Motor Car Co., Indianapolis, open models list at \$2,175 and closed cars from \$2,750 to \$3,175. These figures are from \$165 to \$390 higher than the former "net" prices. New and old lists compare:

Type	Old	New	Change
Touring (7)	\$1,885	\$2,175	\$290
Sport-touring (4) ...	1,885	2,175	290
Coupe (4)	2,585	2,750	165
Sedan (7)	2,685	3,075	390
Prouette (4-5)	2,885	3,075	190
Limousine (7)	2,885	3,175	290

Gill Mfg. Co. Is Busy

Shipments of piston rings by the Gill Mfg. Co., during the first five months of the current year totaled 1,986,504, against 1,471,361 for the corresponding period of 1922. The increase is 35 per cent. Sales of piston pins have begun and orders on hand are reported in excess of production.

Auto Body Co. in Promising Shape

May proved to be the sixth consecutive month in which the Auto Body Co., of Lansing, Mich., has shown substantial increases over the corresponding month of the previous year. The plant is working full time in all departments and overtime in some of them. The largest number of employes in the history of the Company are now on the payroll. A recent order contemplates 3,000 open bodies for the Olds Motor Works.

Studebaker Has 4,754 Shareholders

As of May 10, the Studebaker Corp. had 4,754 stockholders. Of these 36.3 per cent held less than 10 shares of stock. Twenty-eight per cent held more than 10 and less than 25 shares. Those owning more than 1,000 shares were 2.1 per cent of the total.

RULING HOLDS FIRM TO USE OF ONE NAME

Federal Trade Commission Decision Has Important Bearing on Advertising—Stops Taxi Operators' Use of Names Similar to Established Titles.

A precedent which enjoins the use of more than one name by any one company for any kind of business which comes under its jurisdiction, has been established by the Federal Trade Commission. That body's recent decision covering this point has its strongest bearing upon advertising.

The ruling was given in the case of Fred A. and Clarence A. Maltby, of Washington, D. C., taxicab operators, who had more than 50 names listed in the local telephone directory in a way which worked an infringement and injustice upon other well advertised taxicab companies. This was accomplished by having one or more of the many names under which the brothers worked, placed just ahead of such well known concerns as Yellow and Black and White in the alphabetical listing.

The specific complaints were that the tactics of the Maltbys were unfair methods of competition in commerce in violation of the Federal Trade Commission Act. It also charged them with having advertised and operated under a great many trade names and listing them in the directory of the Chesapeake Telephone Co. seeking to preempt to themselves the use of these names and to prevent other taxicab companies from operating under or making legitimate use of any of them.

Clever selection of names is credited to the brothers. Their "Yellow Bell Taxi Co." appeared in the phone book immediately before the Yellow Cab Co., while their "Yellow Ford Taxi Co." appeared immediately below it.

The Commission also took into consideration that several of the Maltby's operating names are used by taxicab companies in other cities. These companies enjoy a large volume of business and valuable good will locally. The use of such names was held to mislead the public who are familiar with such reputable names, into believing the Maltby's service was similarly rendered.

Motor Car Imports Off

In February there were 17 automobiles imported into the United States, Department of Commerce statistics show. These were valued at \$42,025. In January 300 cars, valued at \$385,835 were imported. February a year ago, saw the importation of 26 automobiles to the value of \$44,965. The latter figures by contrast indicate the increase in unit values of this February's imports.

IMPORTS OF RUBBER INCREASE IN MAY

Rubber Assn. Figures Show Total of 36,184½ Tons in May—Plantations Gain While Other Sources Fall Off—New York Receives Bulk.

Increase in the importation of crude rubber into the United States during May is shown by figures compiled by the Rubber Assn. of America. A total of 36,184½ tons of crude rubber were received at United States seaports during

CRUDE RUBBER IMPORTS

Month of May		
	1923 Tons	1922 Tons
Plantations	34,609	19,485
Paras	1,042	1,072
Other sources	533½	65
	36,184½	20,622

May in comparison with 31,588 in the month previous, and 20,622 tons of crude rubber in the corresponding month of the preceding year.

While rubber from plantations increased in volume over April, imports from Para and other sources decreased somewhat. Plantations yielded 34,609 tons in May against 29,922 in April. In May last year only 19,485 tons of the crude rubber came to the United States from plantations. Singapore was the leading source of supply for plantation rubber during the month, shipping 11,428 tons of the total.

Of the 1,042 tons of crude rubber imported from Para, Manaos was in the lead, furnishing 583 tons of the total. Africans contributed 333 tons and Centrals and Guayule 191 tons. Only nine and one-half tons were received from Manicoba and Matto Grosso during the entire month.

The statistics show that crude rubber was received in five United States seaports during May. Of the total New York received 33,288 tons. New York received 10,587 tons from the port of Singapore.

Bank Opening Postponed

Date for the opening of the Liberty National Bank in New York has been postponed from July 1, until September 1. W. C. Durant, its projector, makes this announcement in the current issue of the *Durant Partner*.

Mines Use Motor Transport

Approximately 75 per cent of the copper, lead and zinc mining operators depend upon motor trucks for the transportation of product and supplies between mines and railheads, because normal tonnage is usually inadequate to warrant the establishment of direct rail connections.

This fact has been determined by the National Automobile Chamber of Commerce. The product of about 3,300 coal mines is handled by motor trucks. Seventy-five per cent of the transport work in Texas and Oklahoma oil fields is carried on by motor trucks of all sizes and makes.

WARNING TO MOTORISTS

AWARE that the summer season brings the peak of automobile travel and increased highway hazards, the National Automobile Chamber of Commerce has issued a warning to twelve million motorists. The cautions:

1. Would you willingly injure a child?
2. Drive reasonably.
3. Put your city on the Safety Honor Roll.
4. Remember you are at times a pedestrian.
5. "After you" is courtesy on the road, as well as in the doorway.
6. Keep the brakes in perfect condition.
7. Haste makes havoc.

A small percentage of the motoring public causes the thousands of motor accidents and fatalities which occur every season. It is the aim of the automobile world in 1923 to stimulate this havoc-making minority to eligibility in the Sane Drivers' Club.

DETROIT THIRD IN MOTOR CAR PRODUCTION

Flint Chamber of Commerce Claims Supremacy for That City

Claiming that the city of Flint, Mich., has passed Detroit as the leading producer of automobiles in the world, the Flint Chamber of Commerce several weeks ago started a discussion that has progressed to the point where it now has Detroit third in the list of automobile producing cities. The position taken is that Detroit is not entitled to the production credit for either the Ford or Dodge Brothers factories as they are located in Highland Park and Hamtramck, respectively, neither of which is included in the corporate limits of the city of Detroit.

Within the boundaries of Detroit there are 14 automobile factories including most of the leaders excepting Ford, Chevrolet and Dodge Brothers, while in Flint there are but four plants. During the first quarter of the current year the production in two of Flint's four factories, the Buick and Chevrolet plants, was so great that the total exceeded by a liberal margin Detroit's 14 plants. In value of the three months' output of the Buick and Chevrolet factories the first named led Chevrolet by approximately \$7,000,000 and any other producer, except Ford, by \$15,000,000.

SHORTAGE OF RUBBER LOOMS SAYS WRITER

Predicts Supply Will Be Inadequate by 1940—Experts at Washington Help in Survey—Budding Rubber Trees Suggested as Remedy in Crisis.

Aided by a staff of Washington experts, charts, curves, compasses, weather reports and all other paraphernalia peculiar to prognostication, except, perhaps, an ouija board, the *India Rubber Review*, printed in Akron, O., has discovered that a world rubber shortage looms. It not only looms, but impends, threatens and is inescapable, according to high government officials, quoted by Ralph C. Busbey, associate editor, in a detailed story in the current issue of the publication.

Figures are shown estimating the consumption of rubber this year at 390,000 long tons. Present capacity of the rubber producing areas is placed at about 425,000 tons. Thus showing the immediate peril of the situation. Going forward to the year 1940 the story estimates that if the present rate of increase in the use of automobiles continues, as well as the general use of rubber, requirements in that year will amount to 805,000 tons. Existing rubber productive resources cannot, the story says, be increased to produce more than 525,000 tons by that time.

Even with the United States launching gigantic rubber growing projects at once, it will take from seven to 10 years to be producing rubber on the new plantations in any great proportions. Throttling down the increasing demand is recommended by several methods. While the British rubber restriction laws are characterized as "stifling production unnecessarily and unwisely" and are called "thoroughly uneconomic" it is pointed out that the shortage prediction is made regardless of this set of circumstances.

The one "bright ray" in the situation is described as the hoped-for success in new methods of budding rubber trees similar to the manner in which peach trees are budded instead of growing them from planted seed. Experiments are now being conducted quietly at Washington along this line, with the hope that the impending rubber shortage may go by the way of former impending shortages, such as coal, crude oil and numerous other natural resources whose available supply ran out completely some time ago, if shortage prognostications of a decade ago are to be believed.

Nipple Firm Earnings Large

Net earnings of the Chicago Nipple Mfg. Co. for the four months ending April 30, amounted to \$125,000. No funded or bank debts are represented on the Company's books. Colonel Dixon C. Williams, president, reports that orders on hand insure capacity operations for four or five months.

LENS MAKERS TELL HEADLIGHT PROBLEM

Uniform Laws for Entire Country Sought—Abolition of Dimmers Advocated by One—Standardized Elimination of Glare Called Problem's Solution.

Advocates of a nationally uniform law regulating automobile headlights have become more numerous and the older adherents to this principle more vigorous since AUTOMOBILE TOPICS has pointed out the muddled and uncertain method in which this subject has been handled. On the eve of the discussions of the Society of Automotive Engineers' Summer meeting at Spring Lake, when this subject will be gone over thoroughly, it is interesting to note the reactions of several headlight and lens manufacturers on the subject.

Monogram Lens Corp., New York, says: "It is our suggestion that the members of the National Automobile Chamber of Commerce, the Conference of Motor Vehicle Administrators of the Eastern states, the Illuminating Engineers Society, the American Automobile Assn., and the Bureau of Standards at Washington, be praised and patted on the back for the good work they have done and for their continued efforts to put over a national lighting law—one that will be good in all states. Statistics show that the increase of accidents on our highways is due chiefly to the fact that a great number of cars are equipped with devices that require dimming when passing another car.

"If the list of approved devices, adopted at the New Jersey conference is limited to those that control their light in such a manner that it is unnecessary to dim the lights, the lighting of highways will be greatly improved. We believe that quite a little space should be devoted to pointing out the good to be derived from proper lighting laws and that it should be placed up to the various state officials to see that the law is enforced."

The Deglarescope Co., Detroit, maker of the Deglarescope, declares: "In our opinion the most important phases of the question, from the standpoint of the owner, as well as the industry, are: first, the lack of interest shown by the S. A. E. in the solution of the question and their apparent willingness to leave the problem in the hands of the I. E. S. and the state administrators, from which fact has arisen the second phase—the drive now on from the adoption of so-called 'model headlight laws.'

"Unless some steps are taken to at least settle the question as to what constitutes a safe and desirable light, the question will always be subject to whims

of 'experts' whose interests may not be served by solving the problem, but rather in keeping it agitated. While we all admit the desirability of uniform regulations, let us make sure that such regulation is not drawn to protect the continued use of any particular type, whether it be lamp, bulb or lens, which seems to be the tendency today.

"In all the technical and legal discussion that surrounds this subject, let us not lose sight of the one real reason for regulation, namely, the control of the upward, or glare rays. Until this is settled we are in for continual changes in specifications, for more and more regulation, with its attendant annoyance and expense, and probably for more disappointments."

M. U. R. Plans Bus Feeders

The Michigan United Railway Co., operating interurban street cars in southern Michigan, has made arrangements with the city commission of Kalamazoo for the operation of motor bus lines in conjunction with street car service in that city. Bus operation, it is expected, will start soon.

Lincoln Wins Detroit Honors

In an effort to get a swift "flying squadron" for its police department, the city of Detroit held an automobile "rodeo" on Oakwood boulevard, near Dearborn, the entries being eligible six-passenger touring cars. A Lincoln entry won the standing two-mile event, which decided the match, covering the distance in one minute, 49 and two-fifths seconds. Quick acceleration was the principal point as the cars are to be used in chasing bandits.

To Fine Newark Jaywalkers

Traffic laws with fines for violations have just been passed by the city commission of Newark, N. J. It will cost from \$2 to \$25 to cross the street diagonally in that city, or contravene any of several other regulations now on the ordinance books.

Buses Aid in Binghamton

Conservative estimates are that buses bring more than 5,500 people into Binghamton, N. Y., every week. As the Summer months begin it is predicted that a larger number will be carried to this city by buses.

Pennsylvania Oils Roads

Thus far this year the highway department of Pennsylvania has broken all of its records in oiling highway surfaces. During last week more than 120 road sections were given surface treatment. The oil was spread on the Lincoln and William Penn highways, as well as other main traveled roads in the state.

INSPECTION DRIVE BY DETROIT PAPER

Police Department and Newspaper Combine in Scheme to Promote Safety—Service Stations Organization Formed—Plan Proving Itself Popular.

Incentive for automobile owners to have steering gears, brakes, headlights and speedometers inspected and adjusted regularly at accredited service stations is furnished by the combined efforts of the Detroit police department and the Detroit *Free Press*. Directly following a city-wide safety campaign in Detroit, in which it was emphasized that faulty equipment was responsible for a large percentage of traffic accidents, the police department announced that a permanent "drive" would be started by the traffic department against motor cars with defective operating mechanism.

The newspaper then arranged for an organization of 79 service stations in areas covering the entire city and environs to be known as "Free Press Inspection Stations" where owners may take their automobiles and have the equipment inspected free of charge. Safety certificates showing the name and address of the owner, make and license number of machine and the name of the inspecting station, have been prepared by the newspaper and are available for any reader free of charge at any of the various stations on the list.

Police officials have declared that drivers presenting such certificates properly filled out and signed, will be spared the annoyance of police inspection. This is indeed an inconvenience when it is taken into consideration that automobiles suspected by the traffic officers of having poorly operating brakes, etc., must be driven to the main police garage for inspection. This sometimes entails a drive across the entire city, not to mention loss of much time waiting there.

The universal convenience of the system has been commented on by drivers, service station owners and the police. The elimination of delay and annoyance by police inspection makes the certificates desirable for all drivers. Service stations, of course, will not issue the certificates if mechanical faults are found. Adjustments are made at nominal cost to the owner, all of which cheers the service station and repays for the inspection. The police are thus saved the work of inspecting hundreds of cars that might be sent to the main garage.

While the plan has been in operation but a short time, a great deal of interest has been manifested in the scheme by automobilists. Police officials declare the motoring public has taken the plan up enthusiastically and is cooperating to a remarkable degree in correcting mechanical faults.

LONDON BUILDING VEHICLE ARTERIES

Relief for City Traffic Found in Through Thoroughfares — Link City Centers with Suburban Roads—Ministry of Transport Aids Project.

Practicability of arterial road outlets for vehicular traffic in densely populated centers has been conclusively proven to the London County Council which has committed itself to an expenditure of four million pounds sterling in a program of constructing means of rapid vehicular transit in and out of London. As shown by AUTOMOBILE TOPICS last week, similar plans are being seriously considered by Dr. John A. Harriss, deputy police commissioner of New York city in charge of traffic.

What is known as the Eltham by-pass arterial road, connecting the center of London with the Folkestone highway outside the metropolitan area, is already completed and its necessity has shown the desirability of a general system of through city roads. Congestion in "local" city streets has been somewhat relieved by the use of this one road, London traffic figures have conclusively disclosed.

The British Ministry of Transport is lending a great deal of aid to the project for several reasons of national importance, among which the relief of the present burden of unemployment is prominent. Average width of the vehicle arteries is 80 feet, including foot paths each 15 feet wide.

Mickey Joins Eaton Axle

Karl B. Mickey has been appointed advertising manager for the Eaton Axle & Spring Co., Cleveland. He will make his headquarters at the Perfection Spring plant. He was formerly with the Sherwin Williams Co., and the House of Hubbell, both of Cleveland.

Milton Wins on Hartfords

Hartford shock absorbers were part of the essential equipment on the H. C. S. Special that Tommy Milton drove to victory in the Memorial Day classic at Indianapolis. Eight of the first ten to finish, including first, second and third cars, were thus equipped. "Your shock absorbers contributed largely to my success," wired Milton to the factory at the completion of the gruelling race.

United Features Personal Touch

United Motors Service, official factory organization for Delco, Klaxon and Remy electrical equipment, has adopted a policy of correcting suspicion in the minds of motorists that sometimes parts for which they have been charged have not been actually put in. The old parts, under

the new system, are wrapped up and placed in the rear of the serviced car together with a personal note from the mechanic explaining the necessity of replacing parts.

Multibestos to Hold Open House

Multibestos Co., manufacturer of Multibestos brake and clutch linings, will hold open house in connection with the mid-Summer meeting of the Automotive Equipment Assn., June 18, to July 7, at the factory at Walpole, Mass. The Association's meeting at Dixville Notch will be within easy reach to the plant of the Company which is on the Old Post Road between Boston and Providence.

GRAHAM TELLS AD MEN HOW FORD GETS FREE PUBLICITY

Speaker's Remarks Result in More Headline Space for His Subject

"There are two classes of automobile advertisers," said George M. Graham, vice-president and advertising director of the Chandler Motor Car Co., at the convention of Associated Advertising Clubs of the World at Atlantic City. "First, those who pay, and second, Henry Ford. I don't blame Mr. Ford for accepting gratuitously that for which the rest of us must pay," he declared, thus giving Ford another newspaper headline.

Graham told that the industry pays \$60,000,000 a year in the United States in advertising. Of this total, Henry Ford contributes but little, according to Graham's contention, but reaps large harvests of press clippings.

Grant Affairs End with Plant Sale

Plant of the Grant Motor Car Corp., Cleveland, has been sold to Lincoln Electric Co., for \$425,000. With the exception of sale of personal property, including parts, machinery and the like, this means the windup of the concern, according to statement issued by Receiver Joseph Hostetler.

Selden to Revise Truck Prices

Selden Truck Corp., Rochester, N. Y., notified dealers that prices would be revised on June 15. The new list includes increases on two models, reduction on one, the addition of a new model, with other prices remaining the same as follows:

Model	Old	New	Change
30-C	\$2,250	\$2,375	\$125
50-B	3,250	3,250	...
53-B	3,640	3,550	90
70-B	3,750	4,175	425
73	(new)	4,475	...
90	4,950	4,950	...
52 special bus	4,850	4,850	...

Model "30" is equipped with new Continental "J-4" engine, radius rods and three-joint shaft. Model "53" contractor's special is reduced, while "73" is a new contractor's special consisting of model "70" chassis with five-ton engine.

NEW COMPANY WILL HANDLE BUS PAPER

Cleveland Finance Corporation to Increase Credit of Bus Operators—Down-Town Terminal Nears Completion—Long-Distance Hauls Planned.

Growth in popularity of the motor bus in Cleveland and adjacent territory has made necessary the organization of credit facilities to accommodate the demands of increasing numbers of bus operators who desire to buy standard, modern equipment. To take care of this demand the National Commercial Credit Corp., with \$2,500,000 capital, has been formed in Cleveland.

The Company will specialize in motor bus paper and in the extension of commercial credit to bus operating corporations in Northern Ohio and adjacent states. Officers of the Company are: Don B. McMullen, president; William J. Pinkett, vice-president; R. H. Nellis, secretary, and John L. Dease, treasurer.

Ambitious plans for bus development are being made in Cleveland. A downtown bus terminal, with feeder, shuttle and auxiliary buses, will soon be in operation, serving all points within bus radius. One plan contemplates running a line directly through to New York city.

Mullins Body Corp. May Expand

Orders now on the books of the Mullins Body Corp., Salem, O., are sufficient to keep the factory operating at its current pace until October. This was learned last week when Company executives admitted the possibility of establishing a branch assembling plant in Cleveland. A new commissary to accommodate 250 additional workers is about to be built in Salem, the housing capacity of the town being completely filled.

Truck Market Indications Good

Indications in the truck market are highly favorable. Agricultural districts are buying in increasing numbers. Prospects for sales in the cotton and wheat areas are good. Farmers and manufacturers alike are beginning to replace trucks which would have been replaced two years ago but which have been kept in operation because of business conditions and disappointing crop returns.

Electric Trucks Power Factors

Investigation just completed by the commercial car bureau of the National Electric Light Assn. discloses that New York city uses more current for electric trucks alone than cities like Binghamton, N. Y., and Cambridge, Mass., use for lighting, heating, power and all other purposes. This refutes the impression that the electric truck is a dead issue.

STUTZ WINNERS ARE ON ADVISORY BOARD

Victors in Sales Contest Given Unique Honor—Body Maintains Liaison with Plant Executives—Chicago Salesman Takes \$500 Prize and Medal.

All of the winners of local sales sweepstakes and master salesman's contests, recently concluded by the Stutz Motor Car Co., were nominated to membership in a permanent sales organization to be known as the "Leader's League," at the sales and service conference held at the factory in Indianapolis May 21-31. This group will maintain constant contact with factory sales executives, forming an advisory board that will exert influence on future sales policies.

This is said to be the first time that a group of salesmen has been given opportunity to function thus, thereby establishing a precedent, the result of which will be watched with interest by the entire industry. The solution of Stutz sales and service problems will be done with this board in consideration.

National winner of the contest was Lloyd C. Casey, a member of the retail sales organization of the Stutz-Chicago Co. Casey received from Charles M. Schwab a gold medal and \$500 in cash. Other salesmen to receive recognition, including medals for leading in local sales contests, were W. P. Corby, New York; Herbert Groff, Indianapolis; E. B. Hawkins, Boston; C. N. Jones, Cincinnati; Henry C. Schaefer, Wheeling; E. H. Maddy, Toledo; S. M. Davidson, Pittsburgh; Charles Holman, Seattle; J. A. Robinson, Atlanta; Richard Mann, Baltimore; R. E. Boutell, Minneapolis; R. H. Cook, Lima; J. M. Nestor, Hartford; Neil O'Day, St. Louis; Fred D. Preston, Cleveland; Connie Dye, Tulsa; and Herman Babel, Akron.

Used Car Handbook Published

Westcott Motor Car Co. has just published a new dealers' handbook on the used car business. The company has formulated a set of principles for dealers, founded on experience of dealers in various sections of the Country who have successfully handled used car businesses. It is the first text book on this subject to be published.

OIL FIRMS PAY HALF OF TAX

Indiana Companies Reduce Price

Oil companies operating in Indiana are assuming half of the gasoline tax of two cents per gallon that went into effect there June 1. Tank wagon prices have been reduced one cent per gallon, making the additional amount paid by consumers for taxes, one cent a gallon.

Officials of the Standard Oil Co. of Indiana say they are willing to pay half of the tax since virtually all of the money

goes for road improvements. Late Spring has resulted in a reduced gasoline sales in that territory, although current business has leaped above normal due to the warm weather. A record Summer is expected.

Salem, Ore., Dealer Optimistic

H. F. Bonesteele, Dodge Brothers dealer, Salem, Ore., predicts that business in his territory will be 20 per cent more during the ensuing three months than it was in the same period last year. More than half of his sales are in closed cars. Eighty per cent involve trades.

MILWAUKEE SUGGESTS RAMP GARAGES IN TRAFFIC TANGLE

Engineers' Society Asks Immediate Construction of 500-Car Building

Solution of down-town parking problems in congested cities may be found in public garages, suitably located in business centers, according to a report of the parking committee of the Engineers' Society of Milwaukee. The buildings should be public projects and self-sustaining, the recommendation says.

The ramp type of building is suggested in preference to elevator buildings, first because of the excessive cost of elevators and because of delays in handling traffic and the high cost of operation. The erection of a 500-car garage immediately is proposed.

Powers Joins Brunswick Staff

James H. Powers, who has been district manager in St. Louis for the Federal Rubber Co. for the past 12 years, has joined the sales force of the Brunswick-Balke-Collender Co. He will take over the Southern territory, having charge of the distribution of Brunswick tires.

Bay State Gaining in Cars

Registration of motor cars in Massachusetts is now 24.3 per cent ahead of this period last year. In May 48,520 passenger and commercial cars were registered, about 25,800 of which were reissued licenses.

Duratex Property Sold

New Jersey Commercial Body Co. has purchased a plot of ground in Newark, N. J., from the Duratex Corp., upon which it will erect a modern factory. The plot is 280x100 feet and is located on Frelinghuysen avenue.

S. C. Registrations Gain

Thus far this year more than 100,000 motor vehicles have been registered in South Carolina. Fees have totaled \$794,465, making a new high record for the State highway department. The vehicles registered include 21,347 passenger cars, 8,244 trucks, 135 trailers, 396 motorcycles, 439 dealers and 1,145 transfers.

FINDS 8-HOUR DAY HELPS STEEL MILLS

Dr. Howe Declares Profits Need Not Suffer in Transition—Sees Cut in Labor Cost—Tells Result in Recent Investigation of Steel Industry.

Dr. Harrison E. Howe, of Washington, chairman of the committee on work periods of the Federated American Engineering Societies, after a study of labor and labor costs in the steel industry, has declared that profits in steel plants need not suffer if the change is made to an eight-hour day from a work day of 12 hours. Labor costs in some cases, he points out, have been reduced in this transition. Good management, he says, may offset what now seems to be inescapable increased operating expenses. He says:

"The fact that already many plants operate successfully on the three-shift system indicates that profits need not suffer if the change is made with wisdom. The cost of all blast-furnace labor, according to either system, is less than \$1 per ton of pig. Judge Gary testified before the Lockwood committee in June, 1922, that the United States Steel Corporation could produce at \$2 per ton less than its competitors. This shows what low overhead and expert technical skill can accomplish.

"The operating labor in the case of pig iron is from 5.8 per cent to eight per cent of the total manufacturing cost. Only a part of the labor in the steel industry is working the twelve-hour shift. If that labor was changed to the eight-hour shift and paid as much per day as it is now getting for twelve-hour work, even without securing any compensating advantages through increased efficiency and morale, the total manufacturing cost of the product in the steel industry would be increased only from three to fifteen per cent. This is in most cases less than the variations in cost already experienced by competing plants, due to difference in efficiency of equipment, technical skill, purchasing, location, capital resources, overhead expense and skill of management.

"As a matter of actual experience, it is known that some plants have changed from the twelve-hour to the eight-hour shift and reduced their labor costs. Others have reduced their total manufacturing cost. Others are operating eight-hour shifts with satisfaction to management and stockholders."

New Car Interest Active

Colt, Birmingham & Brady, Inc., Maxwell and Chalmers dealer, Providence, R. I., reports that new car interest by the buying public surpasses used car buying. Despite this, the Company has a sub-normal inventory of used cars. Sales for April were 337 per cent in excess of April 1922. May sales, it is expected, will show an equal increase, when the figures are available. Outlook for June is called particularly good.



New! and *Lower Priced*

Here are three *new* Ternstedt products that provide a splendid opportunity for builders of automobile bodies to clip production costs and still maintain high quality.

Simplified design, less costly methods of manufacture and immense volume production make it possible to offer these body-building essentials at a substantially lower figure than has ever before been quoted.

Samples of all three are now ready for distribution. Send for them. Note their *practical* and *durable* construction. You'll readily agree they are worthy of installation in *any* motor car body and—

You'll get a new idea of value when you learn how little they cost.

TERNSTEDT MANUFACTURING
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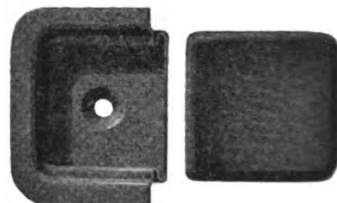
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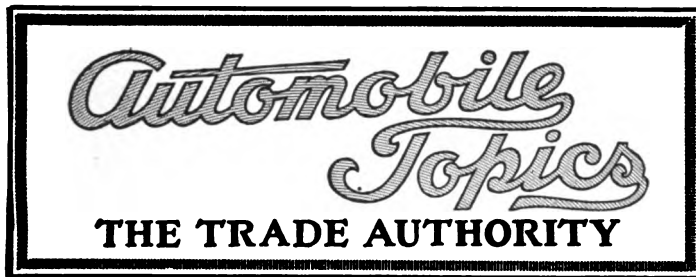
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1790 Broadway, New York City

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Secretary

AUTOMOBILE TOPICS is published each Saturday by Motor Trades Publishing Co., 1790 Broadway (Cor. 58th Street) New York; Telephone, 5170 and 5171 Circle. Cable address—Autotopics, New York.

Remittances should be made payable to Motor Trades Publishing Co.

Advertising forms close on Monday preceding publication. Advertising rates on request.

Single copies 20 cents. Subscription price, \$3 a year in the United States, \$5 in Canada and \$6 (gold) in foreign countries within the Postal Union.

Manuscripts and pictures submitted to the editorial department, if unsuitable, will be returned, provided stamps are enclosed.

General Agents: American News Co., New York, and its branches.

European Agents: The International News Co., Ltd., London.

Entered at the Post Office at New York as Second Class Matter.

Vol. LXX

NEW YORK, JUNE 16, 1923

No. 5

Don't Blame the Car!

In most communities complete studies of accident causation are only just beginning to be made. In only a few forward-looking cities are records sufficiently well kept to be subject to intelligent analysis. Where there is a proper system of record keeping, however, it is plainly shown that a large proportion of accidents result either from carelessness or from the faulty condition of the machine, or both.

The importance of establishing headlight testing stations in garages was mentioned here not long ago. This week the news is told how a Detroit daily has established a system of inspection stations for the checking up of brakes and steering gears. Such developments are exceedingly important and perhaps pre-empt the time when inspections of the elements that are vital to public safety will be universally required.

The tendency still is to blame the car rather than the driver whereas the only time the car can be at fault is when it is in poor condition. But that, paradoxically enough, is also the fault of the driver, who should know better than to take out a car unless it is right. Or, if he doesn't know, should be made both to know and care.

Politics As Is

Automobile tradition was shattered when A. R. Erskine, president of the Studebaker Corporation, made a public pronouncement in favor of continuing the existing administration at Washington another four years after the expiration of the present presidential term. But why should it be strange? Has it come to this, that a man who has won prominence as the head of a

leading institution in a leading industry may not speak his mind, and be heard with interest.

But perhaps political questions are not proper subjects for automobile men to discuss. It would seem the industry has been over delicate upon this point.

Partisan politics has had this influence on business, that the feeling has grown that, like religious belief, it should not be permitted to intrude between buyer and seller. Hence, false modesty, or fear of commercial consequences, has led many a man to conceal what he really thinks.

And so in a land of free speech, government is for the most part given over to professional politicians, with whom business men hesitate to be seen, while politicians have no compunctions about being seen with—and sometimes by—anybody. Is not this a rather bad fault of democracy as practiced in these United States? And should not the outspokening of opinions by those whose reason power is a proven quantity be everywhere encouraged? Perhaps the party system is at fault. But what system is better?

Headlight Tests

Very likely the day is coming when every well equipped garage will have its own headlight-testing screen, and when both the trade and customers will take the precaution to check up on their headlights at frequent intervals, and especially to make proper adjustments when bulbs or broken lenses have been replaced. Universal provision of this character would be of elementary simplicity and its cost would be negligible.

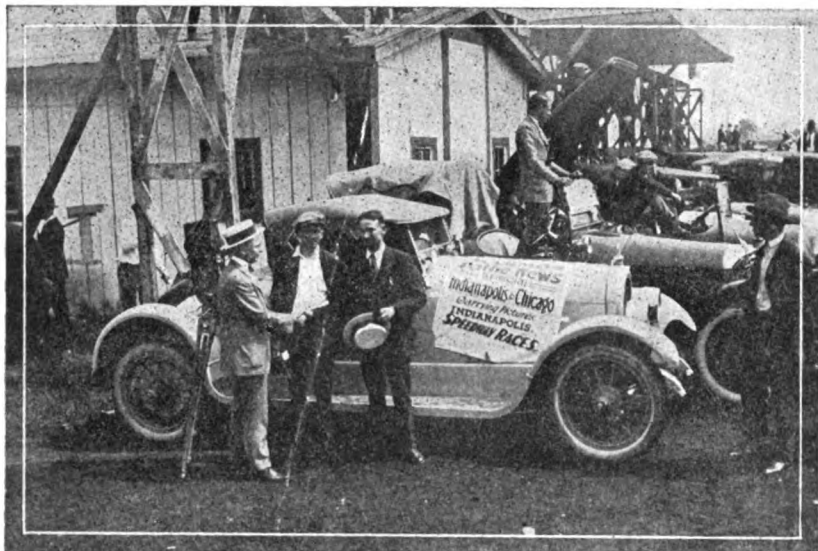
Even under present equipment conditions, which are open to grave criticism, such a system would eliminate a very large percentage of the annoyance and danger now experienced as a result of glaring lights. Furthermore, it would rid the driving public of the "headlight complex," which is to say the fear of danger from glaring lights.

Fear of glare, rather more than glare itself, is the menace today. Experienced drivers, by looking at the road, instead of at the other fellow's lights, get rid of most of the glare. Nervous drivers, however, not only worry over glare, but by switching their own lights up and down are constantly endangering themselves. That is the worst danger of all.

What stands principally in the way of night driving safety for the great majority of motorists is ignorance plus apprehension. Popular education, plus facilities for checking up equipment are the obviously simple remedies.

"Yes Guys"

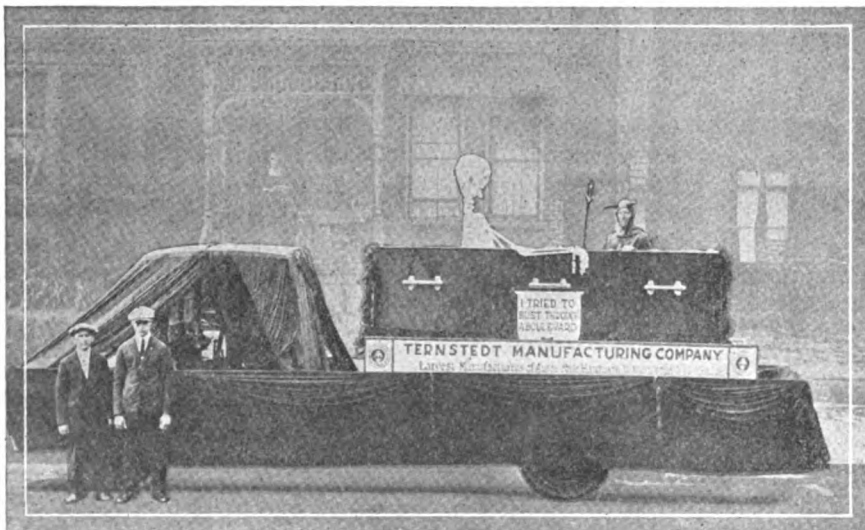
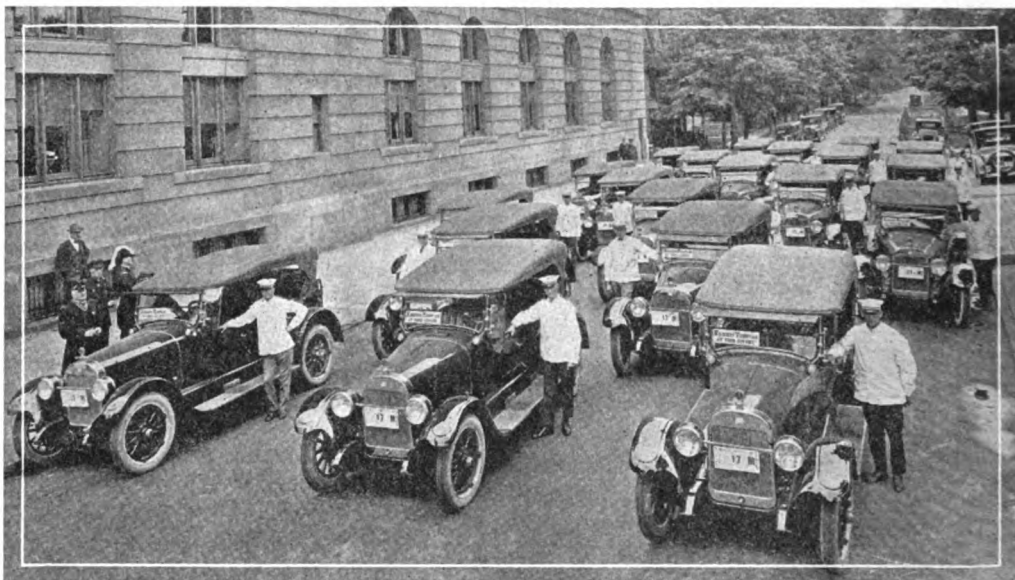
Some executives make the mistake of surrounding themselves with too many assenters, or, as the phrase is, "Yes Guys." It is a fine and flattering thing to build an organization whose people never disagree. But whether it is always safe is something of a question. For perpetual arguers, who are always on the off side of any proposition, the world has little use, to be sure. But there is a kind of certainty about the man who sometimes disagrees that bespeaks both his honesty and his interest in the business.



Speed and Safety Are Combined This Week

PICTURES of the 500-mile race at Indianapolis made by the Pathe News Motion Picture Exchange had to be in Chicago the day after the race. A Marmon speedster met the emergency. After four hours and forty-five minutes it arrived at Chicago, making an average speed of 44 miles per hour in a returning holiday traffic and observing all traffic regulations in towns en route. H. H. Brooks, sales manager of the Nordyke & Marmon Company is shown at the left

TWENTY gleaming red sport Buick models were tendered for the convenience of the Commanderies attending the annual Michigan Knight Templars Conclave held at Flint, Buick's home city. The cars were new, and with their drivers in snow white coats occupied a position of honor in the parade where they attracted considerable attention



Safety Week in Detroit was launched with a mammoth parade. Above is pictured the Ternstedt Mfg. Co.'s float depicting the dire results of carelessness



This silver loving cup was awarded as third prize to the Ternstedt Company

Good Weather Will Help the Middle West

Given a Satisfactory Summer, Farmers Should Be Better Customers — Surface Indications Favorable

GIVEN good weather, a satisfactory Summer, and more commercialism in farming, the Middle West should be a good customer for the next six to ten months, and perhaps longer." This conclusion, expressed in the words of Alfred H. Bartsch, general sales manager of the American Bosch Magneto Corp., affords timely reassurance at a moment of considerable uncertainty in the business world. "It was expected that general business would be found improved over last year," he adds, "but as to the future, that is, the balance of the year, that is still somewhat of a problem, especially in the agricultural West, where there has not been the percentage of increase found in the East."

As has been frequently pointed out by AUTOMOBILE TOPICS during the past few months, agricultural conditions are of even more importance this year than ordinarily, because profitable and voluminous crops are necessary if the Country's present industrial activity is to be maintained. Industry must be fed and its food costs must be commensurate with wage income. Farmers must secure sufficient return on their crops to be able to afford the products of industry. Let either condition fail of fulfillment and the Nation's economic balance is disturbed.

Industry, taking heart after the depression of 1920 and 1921, has attained a tremendous pace, stimulated by heavy buying for replacements and betterments on the part of railroads and other public utilities, fostered by the boom in the building trades, which has now practically run its course. In the meantime, foreign trade has fallen, owing to the continued depression in Europe, until the favorable trade balance of the United States has been reversed. This simply means that continued business stability depends upon the ability of the farmer, first of all to produce abundantly, and to market his production at prices satisfactory to current market conditions; and second, to reap enough reward for his efforts so that he will figure as a conspicuous buyer.

To put it differently, while the farmer is cultivating his crops the manufacturer is producing the goods he expects to sell to the farmer later on. Upon the farmer's harvest, therefore, depends the manufacturer's prospects of rounding out his operations by distributing his products, taking in money, paying his bills and contracting for material to carry on another year's operations.

The general apprehension, amounting almost to expectancy, that business is destined to sag in the Fall, thus depends very largely for its nourishment upon the news from the great crop areas of the Middle West, South West and South. For that reason Bartsch's report is of peculiar interest. A close observer, accustomed to making periodic surveys of the kind, his conclusions are especially valuable because they are the product of a quick survey. In a trip covering a period of 23 days he stopped in 19 cities in the states of Michigan, Illinois, Wisconsin, Minnesota, Nebraska, Colorado, Missouri, Kansas, Oklahoma, Texas, Louisiana and Tennessee. His observations, therefore, have almost the effect of a series of reports gathered simul-

taneously from these widely scattered sources, but have the additional merit of being focused through a single intelligence.

"Agricultural districts are usually 'bearish' in the Spring. What crops are, will be, and finally will be worth, is always indefinite as far as the farmer is concerned, and he is generally none too optimistic," Bartsch remarks. "This temperament is reflected among the trades people, many of whom I found entirely too prone to confine their entire thoughts to the bad Winter and the possible 'lean' Fall, forgetting entirely that business is now good and that they should be busying themselves getting the 'new' business, letting the Fall take care of itself.

"Unquestionably the agriculturalists have something to think about, and their problems naturally become the Nation's problem and the problem of every business man in the East, West, North and South.

"The late Spring has through the wheat belt, undoubtedly affected the bountifulness of the crops. The excessive rains throughout the South have great possibilities of reducing the cotton crop below the expectancy of the planters, and with these possibilities, there is quite a definite possibility that the last half of the year may not prove proportionately so satisfactory as the first.

"This, however, is not given as a definite conclusion by any means. Many concerns will probably secure from the agricultural West this year considerably more business than ever before. Whether this will be the result of sheer determination, extraordinary combing of territory or just because the farmers feel better generally, even though they now are wearing their usual 'gloom coat', I am not prepared to say, but I positively do feel that the Middle West, taken as a whole, will provide considerably more business than last year.

"All states and all sections will not return like business for like effort. Conditions will have to be considered carefully and concentration placed where conditions prove to be best. In other words the West, more than any other section of the Country, will require selective selling activities.

"For instance, in the Dakotas one cannot expect much if any improvement, especially from North Dakota, which has been so unfortunate as to experience extreme cold weather throughout the entire Spring, resulting in practically barren fields today. As one wheat planter put it, they expect to have but two seasons this year—Winter and the Fourth of July.

"In the northern section of the central West, the continued cold and the early year drought will hardly be productive of good crops, and the business possibilities do not look very good although I wouldn't say that things are hopeless by any means. Through the balance of the wheat belt, the weather has been highly unfavorable, warm weather being badly needed to bring the crops along. At present, I believe that the wheat crop of the United States is approximately 80 per cent of normal, with the states of Illinois, Missouri, Oklahoma and Nebraska leading as

to yield, having crops about 81 per cent, 87 per cent, 73 per cent and 67 per cent respectively of normal.

"All this may seem to prophesy that the wheat farmer may be a poor prospect this year. Nevertheless I believe that, everything considered, the farmer will be in a better position this Summer and Fall than he has been for some-time past. He is not so bad off now, comparatively speaking, and in view of the heavy abandonment of winter wheat acreage, due to the lateness and freakishness of the weather, prices may rise to the advantage of the farmer. This, coupled with the present tendency to slightly reduce the prices of wholesale commodities, may materially improve his buying powers mentally, if not financially.

"As one passes from state to state and center to center of the agricultural states, it is obvious that more commercialism is needed in agriculture to secure needed stabilization. Protecting farm crops as to price does not sound well to those who buy and sell farm crops as a business, but it is as essential to the Country's welfare as is the stabilization of steel and wool prices.

Farmers' Prosperity Means Purchasing Power

"When the farmer of the United States can enjoy prosperity, as he should and as he is entitled to, a tremendous purchasing power will be turned loose, which will materially improve the position of those in the manufacturing centers. Thus a period of conservative prosperity will be started and kept going that will be of great advantage to the Country as a whole. The fact that the farms of America contain approximately 48 per cent of the entire Country's population, amplifies the truth of the foregoing statement.

"While southwestern Kansas appears a poor prospect, eastern Colorado and eastern and central Kansas will undoubtedly be good stamping grounds for those who know how to sell—that is, to sell and guide the merchants as to the proper methods of moving their stocks, securing sufficient turnovers to make frequent small profits become actually liberal profits at the end of the year.

"Down through central Oklahoma I was particularly impressed with the excellence of the fields I passed through. The first crop of alfalfa had already been cut and conditions bid well for between three and four more crops of this profitable feed commodity. The wheat appeared thoroughly healthful and should produce a good profit on the investment.

"It was while passing through Oklahoma that I learned of the 'wealthiest poor farms' in the world—an inspiration for many states I am sure. It appears that Creek County in Oklahoma purchased 160 acres of land a few years ago; the soil was good and bid well, with proper management, to make sufficient returns so that the farm would be almost self-sustaining. Four years later, part of the farm was leased to an oil company and, through royalties, the 'Poor Farm' is now enjoying an income of something like \$100,000 per month and no one can figure how much the property is really worth. Incidentally the county's income is such just now that it looks as though there will be no taxes levied for years to come.

"As I reached Texas and passed through its rich and liberally producing oil districts into its farming regions, I was struck with the excellence of the crops. Even the cotton fields, which had been drenched and drenched by innumerable rains and cloud bursts, were coming through excellently. Of course, there may be spots here and there, that will develop less satisfactorily than other sections but,

to my way of thinking, the farmers of Oklahoma and Texas are going to enjoy real prosperity this year, if weather conditions are only halfway favorable. In fact, these two states appear to me to be the 'banner' states, agriculturally speaking, of the United States. The estimate of the Texas cotton crop is placed at 75 per cent or better as compared with 61 per cent at the end of May last year, and 71 per cent two years ago. There has been an 11-percent to 14-percent increase in acreage.

"I am inclined to believe that these figures will be improved upon in view of last minute reports, which indicate that weather conditions in Texas are continuing fine.

"If the cotton price runs between 20 cents and 23 cents per pound for October delivery, which it will likely do, then agricultural Texas is really going to come into its own, something which has not happened for over five years.

"The cotton fields of Texas are said to aggregate nearly 14 million acres with a probable yield this year of over 4 million bales, almost half of the 11 million bales which the Country is expected to produce in 1923.

"While in Texas I met the Textile Special, a trainload of Texas Chamber of Commerce members escorting a number of nationally known textile men. I was told that these textile men represented \$100,000,000 in capital and were interested in research work to determine the location for millions of dollars worth of cotton mills. Thus, Texas seems to be joining the Carolinas in extensive activities to further wean the textile mills from New England, a movement which can well be considered of extreme importance, not only to New England as an industrial center, but to the textile workers of that territory. The movement of textile mills to the South should not go so far as to leave the hills and valleys of staid old New England bare of the industry which for years has supported thousands of small towns and perhaps hundreds of thousands of workers, but it would nevertheless, have far reaching consequences.

Mississippi Cotton Crops Affected by Rain

"As I passed through the Louisiana, Tennessee and Mississippi cotton belts, the atmosphere changed considerably. Here pessimism reigned supreme, as only 'cotton' pessimism can. Rain, rain and rain had been on the calendar for weeks. The cotton crop seems to have gotten off to a very bad start, the worst reports coming from Mississippi. I believe, however, that with warm weather, which surely must be just around the corner, cotton crops in this section will come through fairly satisfactorily.

"Weather is not the only problem here, nor is the boll weevil the main issue. The real serious problem seemed to me to be a definite shortage of labor. The migration of the negroes from the South to the North has assumed a scale which is exciting interest throughout this Country, and is especially alarming to the cotton states previously mentioned. There is scarcely a newspaper throughout the South which is not giving considerable space to the subject.

"The Department of Agriculture found the situation sufficiently important to make an investigation and, according to their report, Alabama has lost 10,000 negro farm hands since the first of the year; Tennessee about 4,500 and Georgia over 32,000. When it is known that two-thirds of the cotton crop of the South is produced by negro labor, the significance of this migration is serious, not alone because of the scarcity of cotton, but because of the reduction of the productive farms that remain below the Mason-Dixon line.

"In Mississippi they are making strenuous appeals to

Packard Single-Eight Succeeds Twin-Six

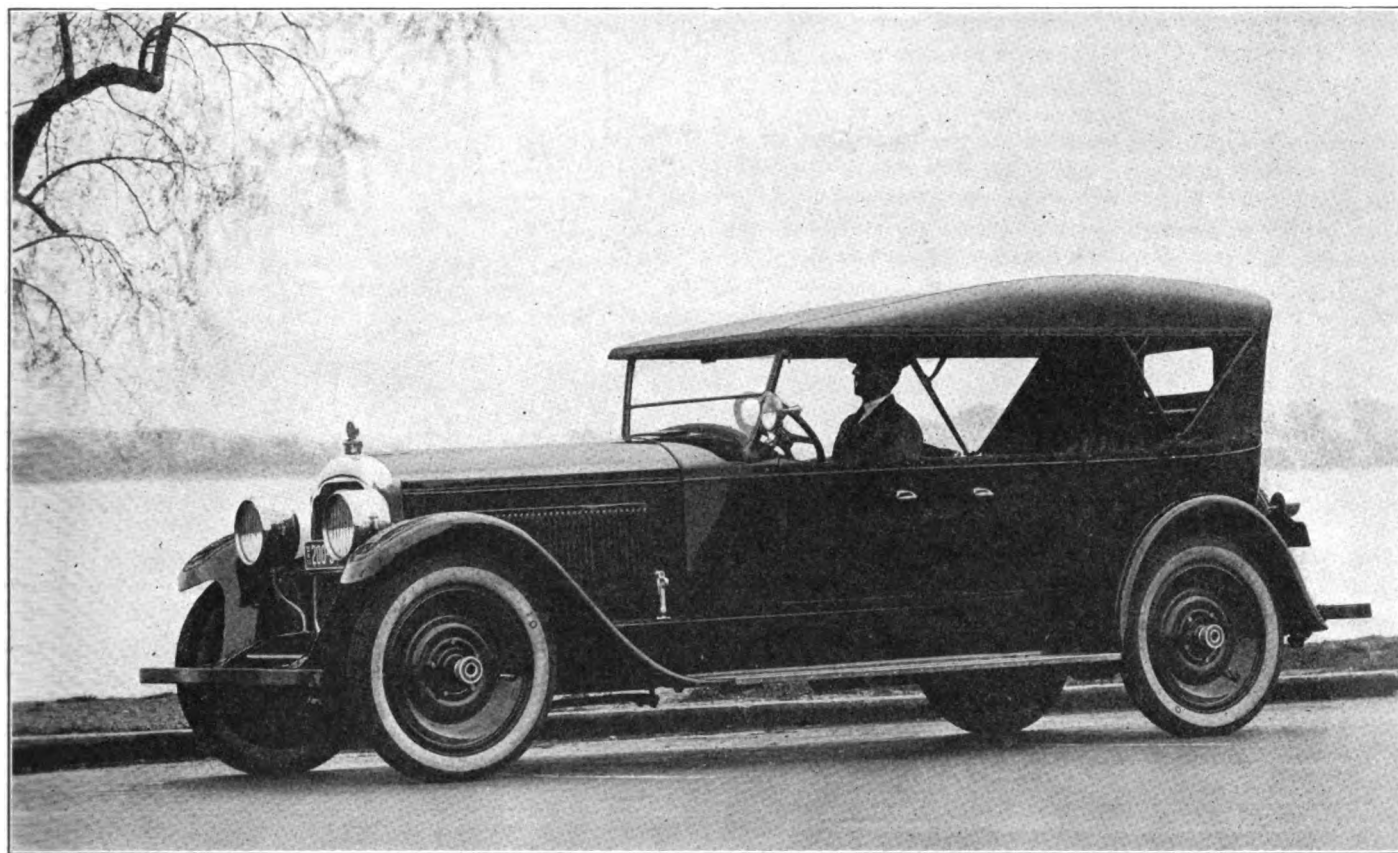
Four-Wheel Mechanical Brakes a Feature—Nine Types Priced from \$3,650 to \$4,950—Equipment Built-In

LIFTING the veil on what, to the trade, has for some little time been no secret, Packard this week makes formal disclosure of its "single-eight" with four-wheel brakes. The successor to the twin-six, now discontinued, is a sizable, quality car, sensibly equipped, offered in nine body styles on 136-inch and 143-inch wheel-base chassis.

Upon it the Packard Motor Car Co. has lavished a characteristic amount of preliminary work, so that, like all of its productions, it may be set forth as a highly finished piece of engineering, refined to the last detail. It is pro-

served for the official unveiling. So, too, the subtlety underlying the distinction between "singles" and "twins," was reserved for the moment when it was to be disclosed that the twin-six was to be abandoned.

The duplex form of the twin-six, it will be recalled, was determined by questions of balance having to do very largely with the characteristics of the six-cylinder group. The rectilinear form of the single-eight is likewise determined by the aim to produce power without vibration but also by the aim to simplify, and it is buttressed by a convincing array of practical and theoretical considera-



Packard single-eight retains characteristic lines with refinements and has carefully selected equipment built into it

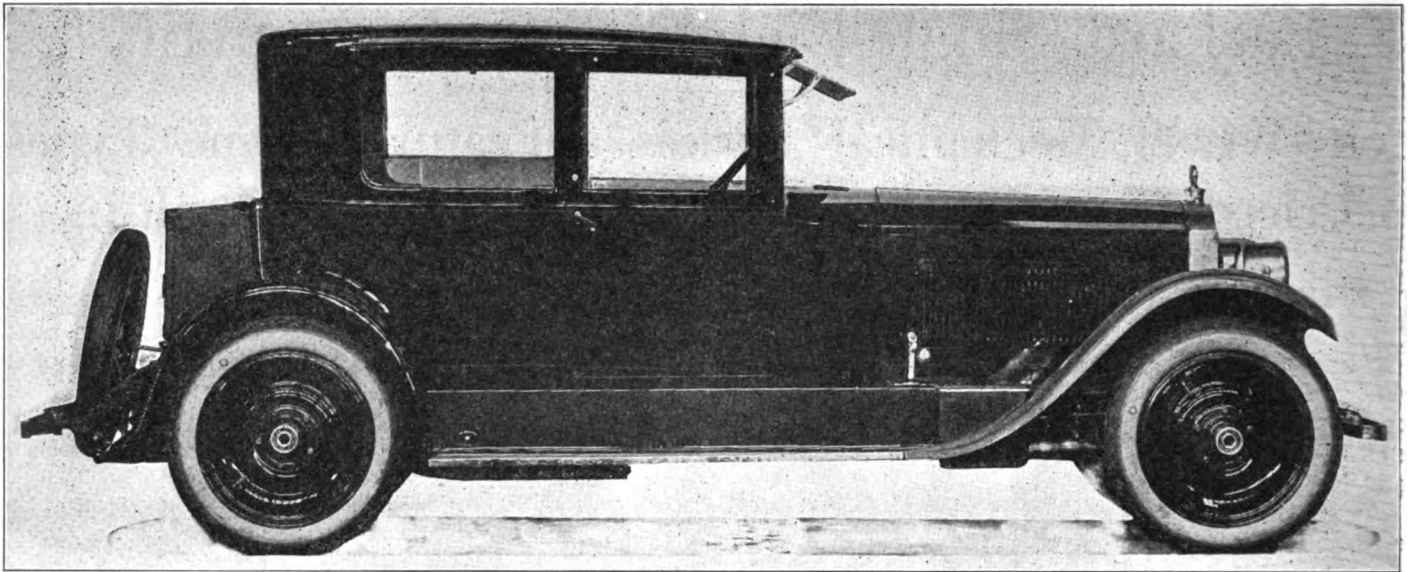
claimed at about the time of year when the disclosures of this concern are usually made, enough ahead of the common run of new models to become a basis for discussion and, if possible, a background for criticism of all cars. There is no question that it will provoke discussion and inspire imitation, so that in those respects it violates none of the Packard traditions.

While it was no secret that the new model was to be of eight-cylinder construction—"eight-in-a-row," as the type has been known heretofore—its projection as a "single-eight," by contrast to the "twin-six," which was the means of setting quite a number of other manufacturers up in the business of building twelve-cylinder cars, had been re-

tions; enough to keep salesmen's tongues wagging for many months to come.

It should be added that the new line is offered at figures more moderate than might have been anticipated, and therefore, more significant from the competitive point of view. On the shorter chassis are mounted a five-passenger touring at \$3,650 and closed types ranging from \$4,550 to \$4,725. The seven-passenger touring on the longer chassis is priced at \$3,850, which incidentally, is the last list price that was effective on the same size body of the twin-six series.

In appearance, the eight-in-a-row model is distinctly Packard. The touring car bears a family likeness to the



Five-passenger coupe at \$4,725 is mounted on 136-inch wheelbase; this is a spacious body with good-sized trunk at the rear

single-six, but is, of course, much longer and its lines are more refined, and, if possible, more substantial looking, as is fitting a higher-priced product.

Allowing for time it takes to swing a big factory over into production on a new line, and also for the fact that distributors and dealers must be supplied in advance, it will probably be September first before anything like quantity deliveries to consumers begin. While the eight-cylinder car supersedes the twelve, it will have no effect on single-six production or sales.

Outstanding features of the new car are its eight-cylinder $3\frac{1}{2} \times 5$, single-block, nine-bearing crankshaft, "L" head engine and its mechanical system of brakes on all four-wheels. As a matter of record, it might be said here that Packard is the second American car to adopt an eight-in-a-row power plant and the third to appear on the market with four-wheel brakes.

The single-eight is born out of Packard's efforts to better the twelve. The result is a car that is new in practically every detail. In addition to greater accessibility and smoothness, the performance of the powerplant is worthy of note. Although the single-eight engine weighs 350 pounds less and has 66 cubic inches less displacement, it

develops 10 per cent more power than the twin-six, and gives 20 per cent more mileage on a gallon of gasoline.

Before going further into the details of the new car, it is enlightening to scan the reasons why the single-eight became the successor to the twin-six. These are best expressed in the words of Col. J. G. Vincent, vice-president of engineering, extracts of which are presented verbatim, or in condensed form.

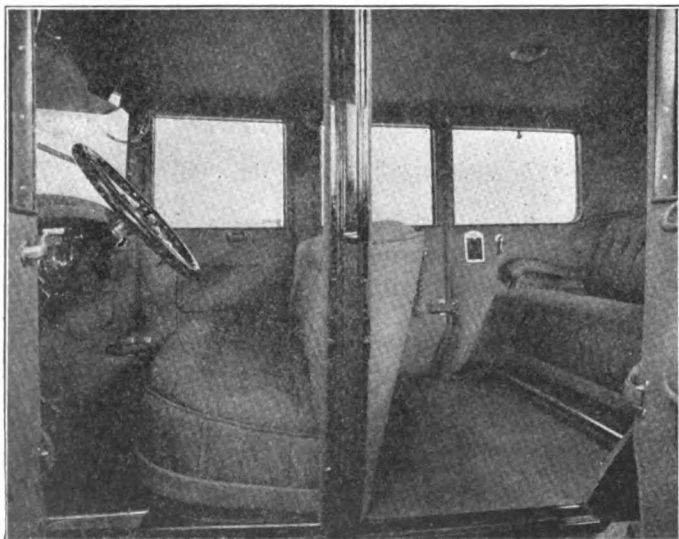
"A broad classification," states the head of the great Packard engineering organization, "would reveal three essentially different types of passenger cars worthy of serious consideration, first, the low-priced car designed for quantity production at minimum cost, secondly, the medium-priced car in which the aim was to blend maximum quality and good performance with minimum upkeep and initial investment, and finally a higher priced de luxe car incorporating a degree of performance and equipped with appointments which left nothing to be desired.

"Up to the advent of the single-six, Packard had always concentrated on cars of the de luxe-type. In bringing out the single-six, Packard aimed to reproduce as many de luxe features in the smaller car as was compatible with cost limits calculated to insure a sufficiently wide distribution of its product to permit in turn of the savings resulting from quantity production."

Could the twin-six be bettered? was the question taken up after the launching of the six-cylinder model. Fundamental characteristics to be considered were: Riding comfort; acceleration, maximum speed and flexibility; brakes, steering and ease of control; appearance and quiet operation; equipment and finish; accessibility, continuity of service and cost of operation. The evolution of the six brought about improvements in many of these respects and there remained the necessity of applying this added knowledge in the design of the new car.

It was essential, Col. Vincent points out, to preserve the air of distinction which had always surrounded the twin-six. It was desirable "to blend this with new lines suggestive of the incomparable performance built into the new car" and to create a design neither too radical nor too conservative, but yet one which would "establish a design as far in advance of its contemporaries as was the twin-six when first revealed."

"Particular attention was to be paid to chassis details



Interior of five-passenger sedan is typical of appointments

heretofore largely responsible for squeaks and rattles. Among points which were to receive special attention were all steering connections, steering knuckle thrust bearings, brake connections and spring shackles. At such places either automatic compensation for wear or a simple adjustment was to be provided."

To make equipment complete, the specifications determined call for: Bumpers, front and rear, with integral supports provided on the frame; automatic air flow regulator to fit radiator shell contour; windshield wiper; rear-view mirror; gasoline tank indicating gauge on instrument board; spare disc wheel with quick-detachable mounting, having built-in lock; power tire pump; stabilators; parking lights in addition to two headlight illuminations for town and country driving; and rear signal with automatic switch built into the transmission.

To insure continuous dependability, Col. Vincent remarks, "It is essential that the car be easily maintained in a well-groomed condition and should repairs or adjustments be necessary, as they must occasionally be in any mechanism, no matter how highly perfected, it is essential that this work be performed in the minimum possible time. Viewed from this aspect a basic change of design was necessary in the new car and, although in this respect the twin-six was found to be better than most other cars aspiring to this class, nevertheless, it was recognized that there was considerable room for improvement."

Beginning at fundamentals, it was agreed that the new car must have an engine which was perfectly balanced. At the same time it must be lighter, more powerful and more accessible than the twin-six, even though in this characteristic the latter was deemed superior to its contemporaries. Under these broad specifications it was possible to lay down a program which took into consideration every conceivable form of power plant and also to determine upon a course of procedure.

Experiments with an engine similar to, but larger than, the single-six, it is pointed out, indicated that it was "about as big a six-cylinder engine as could be made without encountering a discernible roughness due to the heavier explosions." Five different types of twin-six engines were also tried out.

But, Col. Vincent states, "It was becoming recognized that the 'V'-type engine would always possess this disadvantage (in the matter of simplicity and accessibility).

PACKARD SINGLE-EIGHT AT A GLANCE

Body types—nine on two different length chassis.

136-inch w.b.	143-inch w.b.
Touring (5) .....\$3,650	Touring (7) .....\$3,850
Runabout (2) 3,850	Sedan (7) 4,900
Coupe (4) 4,550	Sedan-limousine 4,950
Coupe (5) 4,725	
Sedan (5) 4,650	Chassis "136" .....\$3,350
Sedan-limousine 4,700	Chassis "143" 3,450

Engine—8-cylinder en bloc, "L"-head $3\frac{3}{8}$ x 5, 80 h.p., 9-bearing crankshaft, 357.8 cu.-in. displacement.

Lubrication—regulated pressure by pump.

Chassis—Alemite.

Cooling—centrifugal pump, thermostatic control and radiator shutters.

Ignition—generator, battery and Delco distributor.

Starting—individual, automatic engagement. Lighting—Dyneto.

Carburetion—Fuelizer built into manifold.

Clutch—dry-plate, 5 driving discs.

Gearset—selective 3-speed.

Brakes—on all 4 wheels, 14-inch internal. Rear brakes also operated by hand lever.

Springs—semi-elliptic: front, 38 x 2; rear, 54 x $2\frac{1}{4}$.

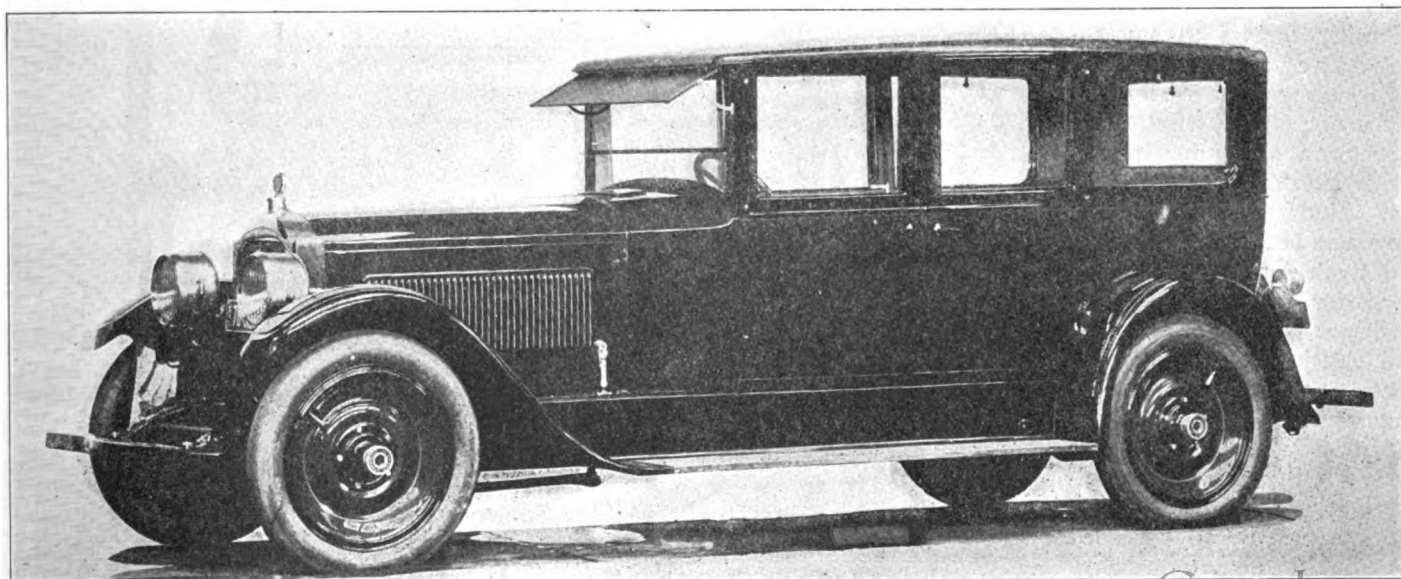
Frame—8-inch pressed steel, torsion tubes and cross members.

Tires—33 x 5 cords, s.s.

Wheels—steel disc.

A point had now been reached where it had been proven that more than six cylinders were necessary to get both required power and smoothness in the new engine and that it could not be a 'V'-type engine and possess the degree of accessibility demanded. At this juncture it appeared that the eight-cylinder-in-line engine was worthy of serious consideration, principally because it permitted the use of more than six cylinders without sacrificing accessibility in the least. . . . The main stumbling block, however, insofar as the adaptation of this type of engine to the new car was concerned, was the inherent out-of-balance condition of the usual type of eight-cylinder-in-line engines."

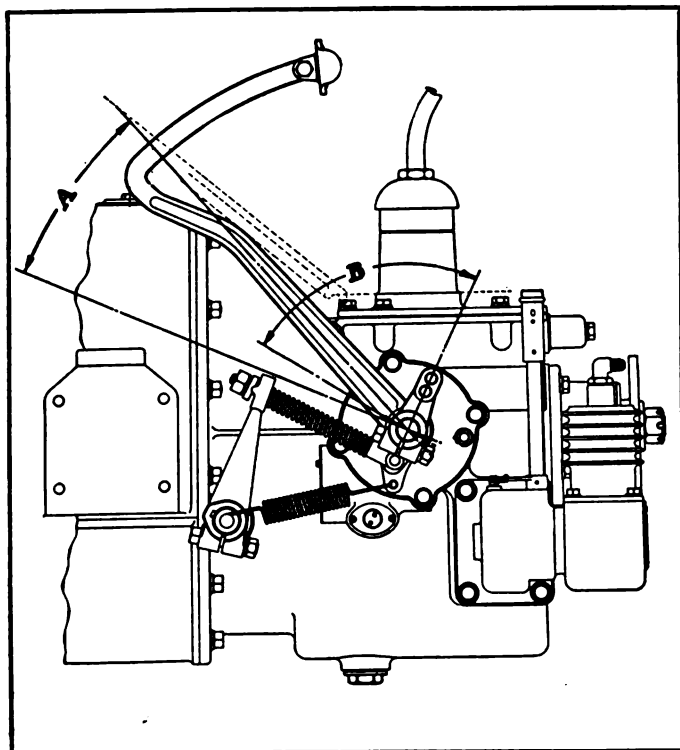
Packard contends that it has accomplished perfect smoothness and balance through its new crankshaft design and a unique firing order. The shaft is very stiff and is supported by nine main bearings. The distance between any two adjacent bearings does not exceed $2\frac{3}{4}$ inches. These nine bearings give a total net effective bearing



Seven-passenger sedan at \$4,900 is mounted on the 143-inch chassis; body and door panels are blue, red striped; rest in black

length of 12.746 inches. Firing order of the single-eight engine is 1-3-2-5-8-6-7-4.

In commenting upon the engine balance, Col. Vincent says: "It will be observed that in the 'V'-type eight-cylinder engine the resultant unbalanced secondary forces amount to over a ton at 3,000 r. p. m., while in the tandem four, or usual eight-cylinder-in-line engine alternating



"Step-up" gear is important feature of new brake mechanism

forces approximating three-fourths of a ton are applied to each end of the engine. Finally, there is shown the case of the Packard single-eight engine, in which the secondary forces are concentrated at the center of the engine and are completely neutralized or 'cancelled out,' thus proving in an indisputable fashion that the Packard single-eight possesses perfect balance, such as no other type of eight-in-line or eight-cylinder 'V' engine can possibly claim.

In addition to the new crankshaft design, other contributing factors to smoothness are the Lanchester damper, machined-all-over connecting rods, four-point suspension and other refinements developed in the twin-six. Clutch and transmission have also been improved, special tooth forms being developed for transmission gears to insure utmost in quietness, and clutch design studied to insure easiest possible engagement.

"In considering the brakes," the Packard engineering head further explains, "it was first of all conceded that, due to the extraordinary ability of the car as far as

acceleration was concerned, it was essential from the standpoint of safety to equip this car with equally extraordinary deceleration or braking properties." He adds that, although experimental Packard cars had been equipped with four-wheel brakes years ago, there never was such an urgent need for securing maximum braking effort as now.

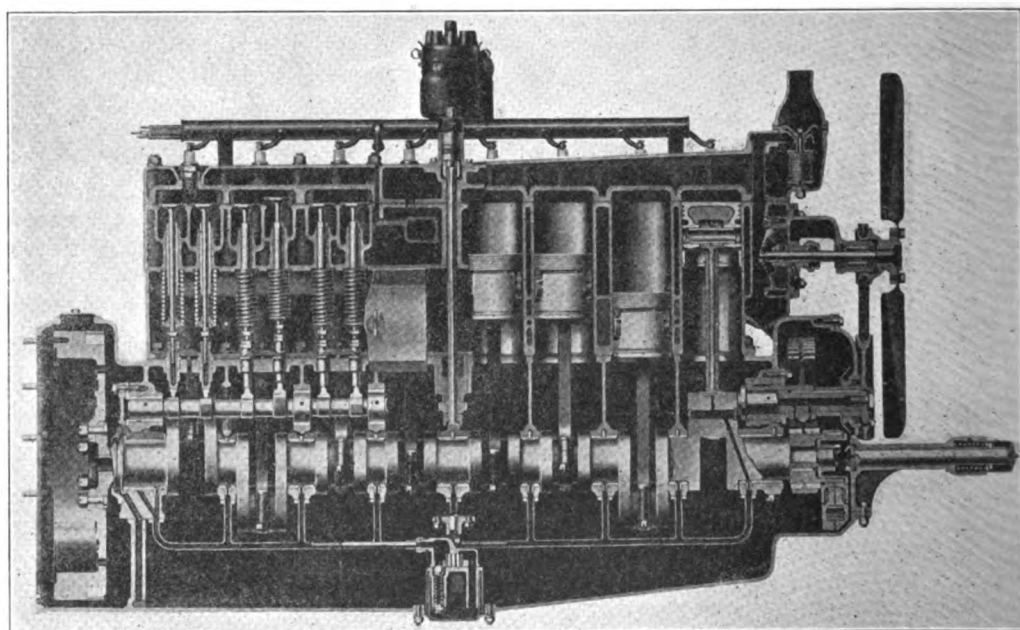
"The rear axle," he states, "must be capable of standing considerable abuse and the single-eight rear axle is an entirely new design, calculated to stand up under the worst possible punishment." The differential is of a new type, giving superior rigidity and the shafts and bearings are liberally proportioned to meet the most severe service requirements. Disc wheels have been supplied both to improve appearance and to facilitate the changing of the tire.

The new car is fitted with bumpers, front and rear. Brackets for these are forged integral with the spring hangers and the bumpers bolted to these. There are three illuminations: Auxiliary head light system, for driving in suburbs or on congested roads up to 40 miles an hour, with rays directed downward; for fast driving over unfrequented roads, a system in which rays are shot forward and slightly downward, said to illuminate road clearly for at least half a mile; and small auxiliary bulbs for parking. The rear signal is controlled by foot brake pedal. Chassis lubrication is by Alemite system.

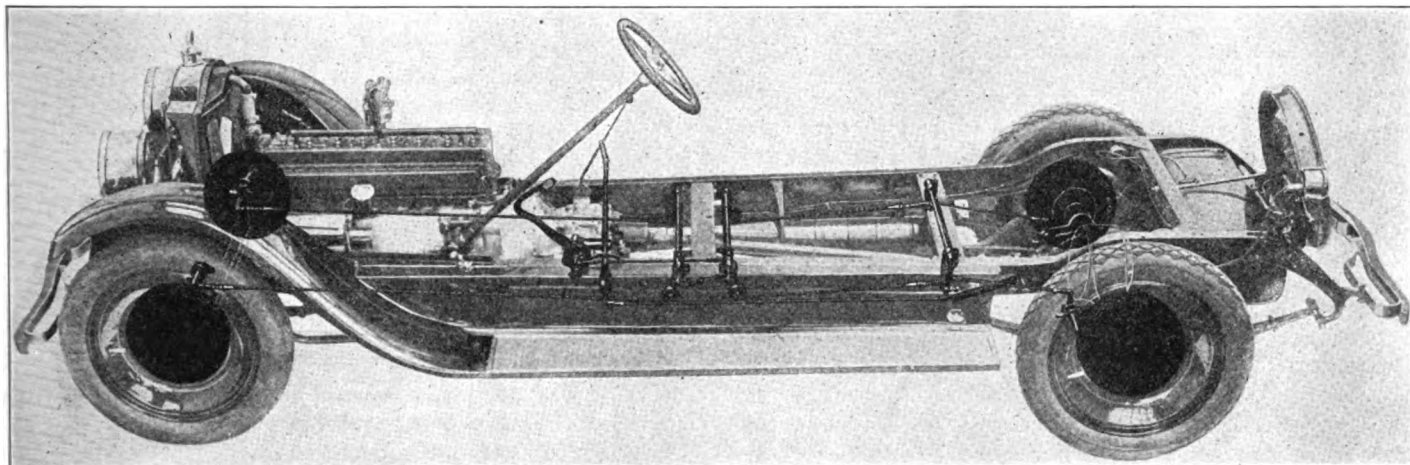
Coming back now to more detailed features of the car, there is the Packard "epicyclic" brake actuating mechanism, an important feature of the four-wheel brakes. This "step-up" gear is a mechanism comprising a planetary gearing multiplying the motion of the foot pedal in a side crank to which the pull cable is attached. This crank is made to move through 90 degrees for a 26-degree movement of the foot pedal.

This crank is so positioned that the motion at the start is rapid, giving low mechanical advantage. As the action progresses the motion progressively slows up with inversely progressive increase in mechanical advantage, which attains even higher values, due to wear of the facings.

This "step-up" gear gives the cables at the start of the pedal movement, more than three times the travel which would be obtained by connecting cables directly, and it permits a liberal clearance being used in making brake adjust-



Engine details; no two adjacent of the nine crankshaft bearings are over 2 3/4 inches apart



Four-wheel mechanical brake system; hand brake is connected through independent linkage to rear wheel brakes only

ments. Its other advantages are: Normal cable stretch produces a negligible result in affecting brake pedal position; clearance is taken up quickly through early part of pedal movement, after which a gradual increasing leverage is automatically applied.

Foot brake is equalized throughout, securing maximum possible retarding effort. A single cable running through a cross tube connects both front brakes. For rear brakes a similar cable equalizing device is used, except that the cable ends are attached to loose intermediate levers on the rear cross tube, connected to the rear brakes by solid rods. The hand brake lever operates the same rear brakes as the foot pedal, but through rods and the rear cross tube, on which are rigidly attached arms which pick up the loose levers.

To eliminate braking stresses in the steering knuckles, arms, cross tubes, drag link and steering gear, the steering pivot axis is inclined so that its center line, if continued, would intersect the ground where the tire bears. In other words, steering is not affected by the brakes under operating conditions.

All four brakes are of the internal expanding type, using numerous interchangeable parts. Brake shoes are of aluminum, lined with wire-woven asbestos. The four-wheel brakes, it is pointed out, have been reduced to such a simple form that they involve a no greater number of parts than the conventional double brakes used on the rear wheels only.

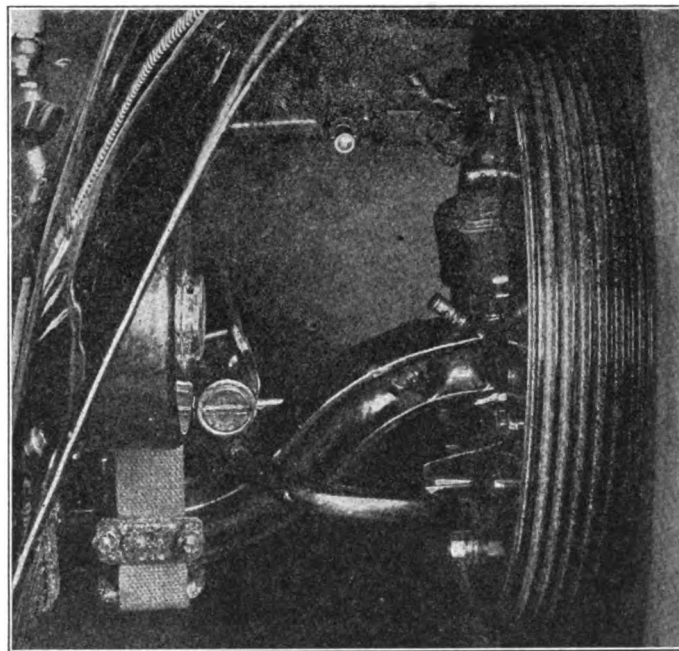
The crankshaft, as already brought out, plays a major role in the engine. The layout is different from usual practice, the crank pins for cylinders 3, 4, 5 and 6 lying in one plane at right angles to the common plane of the pins for numbers 1, 2, 7 and 8. The bearings are designed for an engine speed of 3,000 r.p.m.

It will be observed in the cutaway view of the engine that large water space has been provided, water completely surrounding each cylinder barrel. Capacity of the cooling system is $5\frac{1}{2}$ gallons.

To insure positive circulation, a centrifugal pump is used, this being mounted on the front end of the engine cylinder block. The fan, it will be seen, is mounted on the pump shaft and is driven by a leather-faced steel chain running in "V"-type pulleys from camshaft. A thermostatic by-pass valve is mounted in the forward end of the detachable cylinder head in which is also located the by-pass to inlet side of pump impeller in the cylinder block proper. This valve, when cold, automatically restricts circulation through the block. To supplement this air flow through radiator is regulated by shutters, operated by a button.

The fuelizer is the same as on the single-six, but is built into the manifold. Pistons are of aluminum with three narrow rings. Camshaft, with 16 integral cams, operates valves through rocker levers and adjustable valve tappets. Engine front-end drive is by silent chain.

Clutch and gearset are mounted in unit with the engine. Transmission gear ratios are: First speed, 3.35; second, 1.75; third, 1 only; reverse, 4.18. Rear axle is semi-floating and has a ratio of 4.7 to 1. A new spare wheel carrier is bolted to frame rear cross member and cross tube. It is a hub-clamping type, the wheel being clamped between car-



Close attention has been paid to front wheel brake details

rier and a screw cover operated by "T"-handle, in which is a barrel-type lock.

The five-passenger touring, with standard equipment, but without gasoline and water, weighs 3,870 pounds; seven-passenger touring, 4,020; five-passenger sedan, 4,226. Open cars are finished: body and door panels in gray with vermilion stripe, moulding in black, wheels in gray with vermilion and black stripes, hood the same, all other parts black except metal fixtures, which are nickel-plated. Closed cars are finished as follows: Body and door panels in blue with red striping and black moulding; upper body in black, wheels and hood in blue with red stripe, running gear black.

Beyond the Utah Desert Lies—California

Coast-bound Motor Traffic Broke All Records in 1922—Entrance to Central California Impeded by Desert Link

By AUSTIN F. BEMENT, Vice-President, The Lincoln Highway Association

IT is conservative to say that automobile traffic to the Pacific Coast has increased by 200 per cent every year since 1914. It broke all records in 1922 and will probably do so again this year. Seventy-five thousand cars is a moderate estimate for this season.

It is not necessary to explain to the Pacific Coast what this means. Automobile clubs and associations, chambers of commerce and civic bodies, banks and newspapers from Vancouver to San Diego can and will prove to anyone just what this annual western migration means to their community, county and state, in dollars and cents. The Automobile Club of Southern California estimated that motorists arriving in southern California over the transcontinental highways spent \$43,575,000 there last year. That sounds like a lot of money, but it isn't—it's only five dollars a day for each of the individuals the Southern Club's records indicated arrived by motor. Neither is it big at all compared with what it might be. In fact, it's a piking sum compared with the amount which will be left along the Pacific Coast annually when the roads connecting from the East to the Pacific can be classified more attractively than merely "passable" or "impassable."

There is no section of the United States so importantly affected by road conditions in other states, be they good or bad, as are the states on the Pacific Coast.

California, Oregon and Washington may broadcast their attraction to the Nation; they may invest hundreds of millions in the development of magnificent highway systems, yet they must realize that to the extent of tens of millions of dollars annually, their tourist business with all of its corollary benefits in the way of new population, greater development, and increase in fame, is dependent upon the nature of the roads which bring this traffic and this money west.

A great many connecting roads leading from the East and Middle West to the Pacific Coast cannot be built in the near future. A few roads can be immediately brought into proper condition.

Roughly, three great routes, widely known and more or less connectedly improved, now reach the Coast. The Yellowstone Trail from Chicago via Milwaukee, Minneapolis and Aberdeen, through Montana and across northern Idaho into Seattle or Portland, via Pendleton or Spokane, is one. The Lincoln Highway, the most direct route from New

York and Chicago across the continent into central California by way of Omaha, Cheyenne, Salt Lake and Carson is another. The National Old Trail from Kansas City via Trinidad, Col., Albuquerque, N. M., Flagstaff, Ariz., and Needles into Los Angeles, is the third. Nearest to completion, most centrally located, best known, best marked and most traveled is the Lincoln Highway between New York and Salt Lake City.

The Pacific Northwest is well-served by the Yellowstone Trail and tourists seeking that section can get there in Summer if they want to. Southern California is still better served the year around by the National Old Trail, and tourists desiring to follow that route from the Missouri River can readily do so and do so in increasingly large numbers yearly.

Now, how about that traffic which wishes to reach, most directly, central California? It takes the Lincoln Highway and finds a really splendid road, which is rapidly being brought to completion, stretching all the way from New York City to Salt Lake City, over 2,450 miles, upon which more than \$47,000,000 have been expended in the past nine years.

A tremendous volume of traffic takes this route to Salt Lake City. It leads on direct to Reno, Carson, Lake Tahoe, Truckee, the Yosemite, Sacramento, Stockton and the Bay. Official estimates compiled by The Utah State Automobile Association

Touring Bureau at Salt Lake City, covering 1922 traffic shows that 23,260 motorists arrived at the Utah capital from the East in twelve months—71 per cent of the total over the Lincoln Highway. This traffic reaching Salt Lake City, the hub of the Inter-mountain West, unlike the traffic on the more northerly or southerly routes mentioned, can here change its mind or be diverted through necessity, and without materially lengthening its journey over either of the other two routes, reach the Pacific Northwest, or Southern California. At Salt Lake City, traffic west-bound can turn north to Pocatello, Idaho, and go via Boise to Walla Walla. Or it can turn south and follow the Arrowhead Trail through Provo and Beaver, Utah, to St. George, and, via Las Vegas, Nevada, strike the National Old Trail at or near Goffs, and go into Los Angeles. Or it need not go any further West at all. It can go up into the Yellowstone, or down to the Grand Canyon or the new Zion National Park in southern Utah.

IT'S UP TO UTAH

SOMETHING of the situation in Utah with respect to the completion of the Lincoln Highway has been told by AUTOMOBILE TOPICS in the news of recent weeks. Here, however, is a more complete discussion of the matter as it looks from the viewpoint of the summer tourists' interests, and they are many and far reaching.

Back in the days of the old Glidden tours there was a little town down South whose citizens, when the pathfinding caravan came along, had pretty definite ideas about what these here automobile fellers from up North ought to do, and ought not to do, when the tour came along. So the pathfinders simply changed the route of the tour and left that little town out. And then what a howl went up!

Mr. Bement has been with the Lincoln Highway so long, and driven over it so many times that he has a pretty substantial idea what it means to the Country. In this article he explains the proposition as it stands and narrows the issues down so they can be readily understood

Confronting the tourist reaching Salt Lake City bound for the Bay lies the Great Salt Lake Desert. It must be crossed if he is to reach central California.

When the road across the desert is passable, traffic can go on directly on the Lincoln Highway into central California. That, of course, is what central California wants it to do. But when the Lincoln Highway across the desert west of Salt Lake City is impassable, then what? Then traffic goes north or south and if by any chance it reaches central California at all it does so by a devious course indeed.

Central California is therefore at a great disadvantage as compared with the rest of the Coast. Despite the fact that the one most direct route across the continent leads into the very heart of its most superlative attractions and centers of population, this route—the only one—crosses a natural barrier which at all times is precarious and at any time may become totally impassable, shutting the door into central California in the face of west-bound traffic. When the desert door is shut the detour is via Los Angeles. Salt Lake City to Reno—600 miles—is the door.

Nevada Section in Course of Completion

Four hundred and thirty-five miles of that distance lie in Nevada. California need not worry about the Nevada section of the thru-central route. By the end of 1924, the Lincoln Highway across Nevada will be completed. The road from the Utah line to Reno will be as highly improved for the traffic it will be called upon to carry as any section of the Lincoln Highway between New York and San Francisco. Through the aid the Lincoln Highway Association has been able to extend, every section of the route requiring improvement has been placed under contract.

The rutted alkali flats which constitute the only serious difficulties on the road across the State today—now that the Fallon Sink has been bridged by a good road—will be graded and gravelled.

What remains? What is the last gap, the final barrier in a great thru-road across the continent into central California? Nothing more nor less than the short link across the great Salt Lake Desert—that gap the Association thought it had taken care of in 1918 when it presented the State of Utah with \$125,000 of eastern money to open the road to the Coast. The road is passable now. From Salt Lake City for 75 miles west it is fine. The grade across the Desert itself was completed long ago and carried all of the traffic that entered California north of Tehachapi in 1922, thanks to volunteer patchwork maintenance. How long it will continue to do so is questionable. When even those most determined to go into central California can no longer get across that little 17-mile neck of desert, traffic into Reno stops.

When the expensive work, accomplished by the State of Utah, with the aid of funds provided by the Association, and which has now been abandoned, is allowed to be totally destroyed by traffic and the elements, central Nevada and California are going to be cut off completely from west-bound traffic west of Salt Lake City. The cut-off has stood up without official attention since 1919. It is now rapidly becoming impassable.

When will this vital desert link be properly completed and systematic maintenance undertaken? What is the question which should be of paramount interest *now* in central California and central Nevada? This section could be completed at once without financial aid from the Pacific Coast following the mere formality of its designation as a

portion of Utah's Federal aid system by the Utah State Highway Commission. That formality would automatically make available about three dollars for every other available dollar and the other dollars are available whenever the State takes the action the Lincoln Highway Association has so long urged.

The Lincoln Highway Association, despite the unsatisfactory administration of the previous fund it contributed to the State of Utah, has offered the State additional money to assist Tooele County in meeting the Federal Aid necessary to complete the section. This money the State has refused to accept.

It may be asked why Utah does not accept the Association's offer, utilize the funds available from Tooele County, secure Federal Aid and complete this important link. The reasons are varied but it is not improbable that the agitation for the improvement of another paralleling route west of Salt Lake City, in northern California, which has served to confuse public and official opinion, and create a controversy in both Utah and Nevada, is one of them.

Road controversies do not build roads. They prevent and delay the building of roads. The Lincoln Highway Association shuns controversy. It is endeavoring and has been, for nearly ten years now, to bring about the completion of the Lincoln Highway—a road first across the Country into California.

The Lincoln Highway Association looks with approval upon the promotion of additional highways everywhere in this Country, but deplors agitation for paralleling routes of travel through those barren regions where it is difficult to finance now, even one, and where concentration of interest, money and effort is essential if any road is to be completed in the near future.

Differences as to routes west of Salt Lake City should not be fostered in California if the aim of the Bay region is to see the completion of any road from Salt Lake to Reno, or while the Lincoln in western Utah remains the subject of much debate instead of the object of road improvement, the road from the Utah capitol south to St. George, Las Vegas and Los Angeles moves forward to completion as fast as the State can build.

Central California Wants Through Road

Here is the point, in so far as central California is concerned. What the business interests and commercial and civic organizations of that region want and should have at once is one through connecting improved road from Salt Lake City to Sacramento. From a practical standpoint, they should desire the completion of the road which can be completed first—and at the least cost to them.

The Lincoln Highway in Utah can be completed if it is designated for Federal Aid long before any other link west of Salt Lake can be opened, for three reasons. First; it is much less expensive to complete the Lincoln Highway for a great deal of work has already been accomplished on it, as is evidenced by the fact that it carried all traffic into central California in 1922. The other longer crossing of the desert was completely impassable for tourists all last Summer. Second; Tooele County, through which both roads run in western Utah, will provide funds to meet the Federal Aid for the improvement of the Lincoln Highway. It will provide no funds for the improvement of the so-called Wendover Road which does not serve the County. Third; the Lincoln Highway Association has offered its aid to the County to assist in meeting the Federal funds and no such assistance is available for the other route—

unless the State of California wants to construct it.

The new Utah administration proposes to completely abandon the Lincoln Highway west of Salt Lake. It is not on the State's Federal Aid System at all, despite the urging of ex-Governor Boyle, the Nevada Legislature and the Nevada Highway Commission.

The road submitted to Washington for approval can be built, surely. A road can be built anywhere if time and money are no object. If several years of time with a tremendous loss of tourist traffic every year; if the cost of this delay plus the funds which effort is being put forth even now to raise in central California, mean nothing to that section, then it can abandon the Lincoln Highway. But if it is interested in promptly securing a connection at no cost to it, it must act quickly and unitedly in behalf of the Lincoln Way.

The Secretary of Agriculture, Henry C. Wallace, has ordered and there is now being completed, an engineering

investigation and report on the possible routes from Salt Lake City west and the Bureau of Public Roads of his Department will this year approve or disapprove Utah's designation of the Desert route. It must do this in the face of Utah's present insistent official demand for the longer northern crossing of the Desert!

Central California can, without expense, secure the immediate completion of a road west of Salt Lake City if the Lincoln Highway is included in Utah's Federal Aid System. Or it can continue its divided support, its agitation for another road, and wait for a connection until it digs down in its pockets and raises the money to provide for the completion of another road—not only in Utah but in Nevada also!

So far central California has done nothing, through its past ill-advertised agitation, but delay the completion of the Lincoln Highway for several years (since 1919) at a cost of millions annually to itself.

GOOD WEATHER EXPECTED TO HELP THE BUSINESS IN MIDDLE WEST

(Continued from page 437)

the school boys and the boy scouts to come to the rescue of the cotton fields. What their success in this endeavor will lead to is of course problematical, but it all pictures a problem of considerable importance to business, as a whole, which is expecting the South to come back very considerably this year.

"I found the motor car business to be still good in most of the territory I passed through. While April was satisfactory, May fell off quite a little. This did not follow the general business conditions throughout the territory, where May came back after a drop-off in April. The falling off in May, I attribute mostly to the backwardness of Spring. This had its mental effect as well as its physical limitations for, with a backward Spring, naturally a majority of the roads remained impassable. This condition was amplified by incessant rains throughout the southern states.

Obviously there was little desire to purchase automobiles and automobile accessories under the circumstances. It is because of this situation that I look for a particularly good June, insofar as motor car and accessory manufacturers are concerned—especially those concerns in the former category who manufacture popular-priced closed models.

"In many cities and towns there was an actual shortage of closed cars, a slight over-stock of open cars, and a more satisfactory atmosphere regarding the used-car problem. The latter was not due to the fact that used cars were not evident in too large a number, but because of what seemed to be a decided strengthening of the back-bone of most dealers, in so far as allowing too much for 'trade-ins.'

"I found a particularly large increase in the number of cars that were being purchased on time—even by those who could afford to pay cash but for one reason or another desired to take advantage of the instalment plan. This tendency may not be of considerable importance if payments are not spread over too long a period, although it

is obvious that activities which tend to spread the payments should be watched carefully.

"I found no definite tendencies towards a slump in the sales curves. Such slowing up as there was seemed to be entirely in the demand for open cars, as I have said before. These models are becoming more and more difficult to merchandise, and this problem can be considered of importance, in so far as dealers are concerned. Many of them are awakening to the possibility of having to carry over a large number of new cars of the open type, and, in consequence, are in somewhat of a quandary.

"In many sections the demand for closed cars cannot be filled at all promptly. Deliveries of closed types in these sections are running between 80 per cent and 90 per cent, and it is obvious that, if manufacturers' deliveries can be speeded up, motor car sales will record a definite improvement over some of the best months just passed.

"Even the truck dealers feel better than they have for some years past. The demand continues well and seems to be keeping a fair pace with the general run of business. Farmers heretofore not interested in motor trucks are buying a fair share of the dealers' stocks. One could readily gather that the motor truck year would turn out quite well. That is, 1923 will undoubtedly show a definite improvement over the previous year.

"In conclusion, I found business in general to be extremely active with indication of continued progress. There still remains, it is true, a decided under-current of unsafety for the future, both as regards to business and maintenance prices. This reflects itself in purchases of many lines, especially among wholesalers who are watching their stocks very carefully—a condition which is suggestive of healthfulness.

"The farmer is a better prospect than he has been since the spectacular boom year of 1919 and 1920. General business can afford to look to most of the agricultural sections for improvement. No wide sweeping effort should be engaged in to interest this group, but careful analysis should be made of territories, conditions and the like, in order that no possible effort will be made that will not be productive of fair returns."



SELLING GOODS AT RETAIL

MERCHANTS fortunate enough to be located in those towns selected as the scenes of conventions, have learned to profit thereby, while neighboring communities have looked on with envy.

Highway transportation, however, has changed the situation considerably. Availing themselves of the opportunity of combining business with pleasure, countless delegates and representatives pack their friends and relatives in their machines, and take to the road. Thus, not one community alone profits, but every town bordering the main arteries of travel.

This was illustrated in the recent assemblage of Shriners at Washington. From all sections streamed cars filled with red fezes.

Some enterprising owners of garage and accessory stores were far-sighted enough to prepare for this travel by posting signs along the roads welcoming the visitors, and offering their services. And indications are that by so doing they picked up considerable business.

SOW NOW FOR HARVEST-TIME

WHEN the vacationist is planning a railroad trip, he gets all details from the information desk of the railroad company. The same

holds true if it happens to be a water trip he is contemplating. But from what source does he secure the neces-

AS "SID" SNYDER SAYS

SOME wonders why they never reaches Easy Street. "Bad luck kept me back," says one. "No opportunity," says another. It's never because they didn't work.

* * *

The head of a big company was talkin' to his employees. "You can only reach Easy Street," he says, "by travelin' the path of Hard Work, on which are pitfalls of Discouragement, detours that lure but lead to Nowhere, traps set to throw the over-confident. But keep lookin' ahead, keep pushin' ahead an' you'll come out ahead"

sary facts when he "would a-camping go," via his automobile?

Advantages accruing to the automobile merchant through the establishment of a "touring bureau," large or small, have already been pointed out in these columns.

One simple way of thus lending a helping hand is to call the attention of the "would-be" camper to books and articles bearing on the subject. One of these, "Motor Camping," by J. C. Long and John D. Long, is a

valuable guide book to the "open places" as will be seen by the review on page 452 of this issue.

This volume as well as others of a similar nature may well be displayed about the showroom as indicative of the company's good-will and desire to see its customers get the greatest enjoyment from their excursions into the great "out-doors."

SOW NOW FOR HARVEST-TIME

LACK of interest on the part of the salesman has resulted in the loss of many a perfectly good sale. The prospect has just about made up his mind as to what he wants. He enters the store prepared to "sign up."

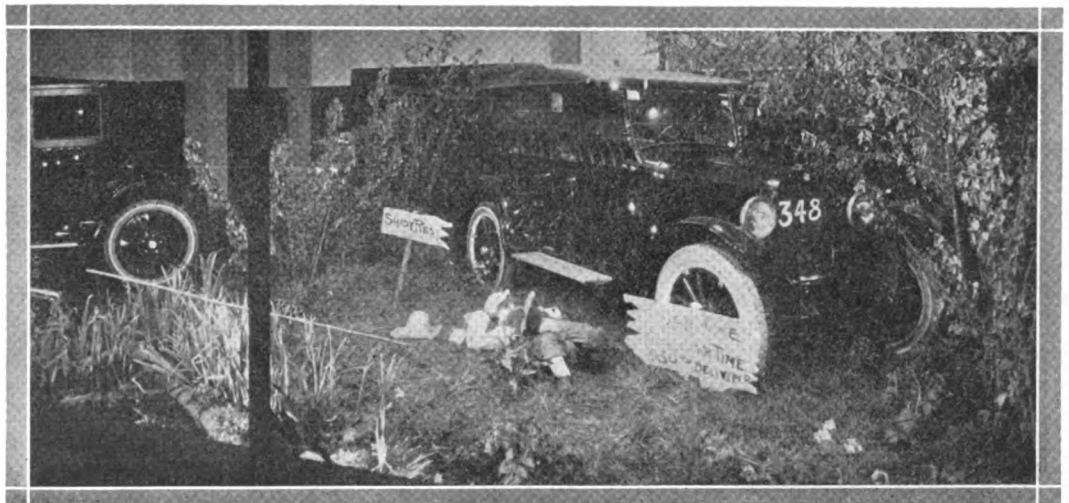
Inside, he detects something in the attitude of the salesman that chills his ardor. It cannot be defined by discourtesy, but as something more resembling plain indifference. So he walks out—and buys elsewhere.

This is particularly true perhaps of purchases involving a considerable sum such as the automobile. The buyer expects the dealer to be interested.

The merchant who cheats the prospective buyer of this interest due him, cheats himself most. For he invariably loses a customer.

Humorous Touch Adds to the Window Display

SUITABLE for the "silly season" is this setting for a Dodge Brothers touring car staged by the Winston Motor Co., Joliet, Ill. This shows Andy Gump of newspaper fame "sleeping it off," alongside a fish pond. Andy's cork and line bobs as though big bass were biting



Individual Service Plan Reduces Complaints

"Select Your Service Man Yourself," Cadillac Branch in Detroit Urges—Customers Pleased with Results

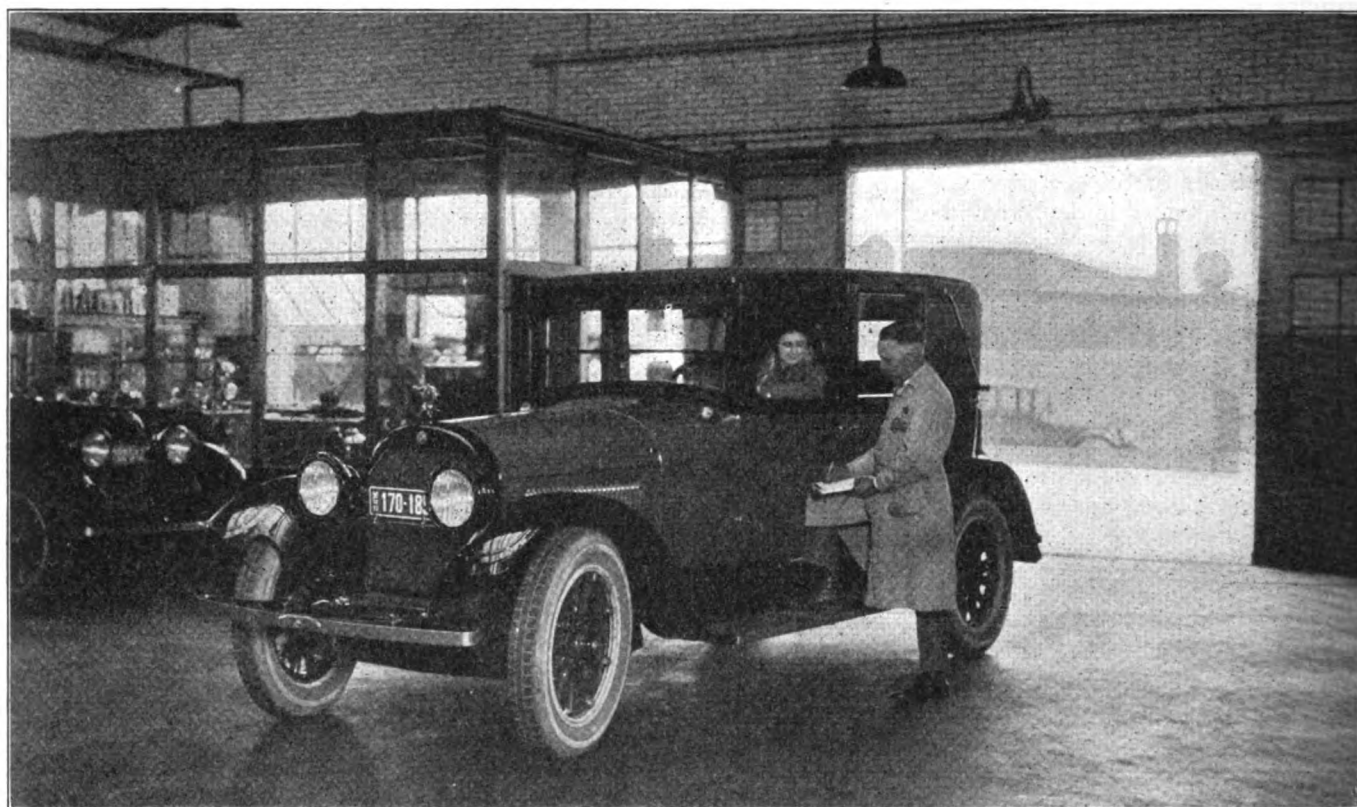
WHEN any part of the human mechanism fails to function properly, professional advice is sought. Where possible the doctor consulted is one who knows all the peculiarities of that particular system, its weak points as well as its strong

phasized in laying the plan before its friends. "Similarly, such contact assists the service man to render service more quickly and with much more certainty than is possible where no such practice prevails.

"So Cadillac urges you to select your

man of experience handle the maintenance work on your car.

"So when you drive your car into the service station, why not make it a point to remember the man who serves you and to ask for him when you come again? Let him become



Every customer of the Cadillac Motor Car Co., in Detroit is urged to choose a service man to look after his wants

points. If a stranger must do the repairing his first task is to acquaint himself generally with the subject. Thus, no matter how efficient he may be, a certain amount of time is lost.

Much the same holds true as regards motor troubles, a fact which has been recognized by Richard Harfst, general manager, of the Detroit branch of the Cadillac Motor Car Co. Accordingly, a plan has been devised whereby all customers of that company receive service from the same man—individual service.

"It is highly advantageous to the Cadillac owner to deal with a man who knows his particular car, its history and the individual likes and dislikes of the owner," the company em-

phasized in laying the plan before its friends. "Similarly, such contact assists the service man to render service more quickly and with much more certainty than is possible where no such practice prevails.

The foregoing request was embodied in a pamphlet which contained the pictures of several men all of whom have been with the company for some years. The name of each appeared under the photograph with his record sketched briefly.

"Select your Cadillac service man yourself," read the text of the message. "For the same reason that a single Cadillac workman at the factory assembles an engine in its entirety himself, it is desirable that a single

man of experience handle the maintenance work on your car.

Having gone thus far with his idea Harfst decided to follow up on it. Thereupon after the first notification of the system had had time to become effective, a letter and folder found its way into the hands of Cadillac owners.

The letter which is reproduced on these pages called attention to the individual service plan and sought the owners' cooperation in making it a complete success.

"It is our desire to improve this personal service" it read in part, "and we would appreciate it very much if you would advise us the man whom

you usually select, and if you find his work satisfactory.

"I would like to hear from you personally but if you haven't time to write me, would you please mark the photo of your service man, and return the enclosure with the attached stamped envelope."

The folder referred to contained photographs of the nine service men, on one side. The other was in the form of a questionnaire to be filled out by the recipient.

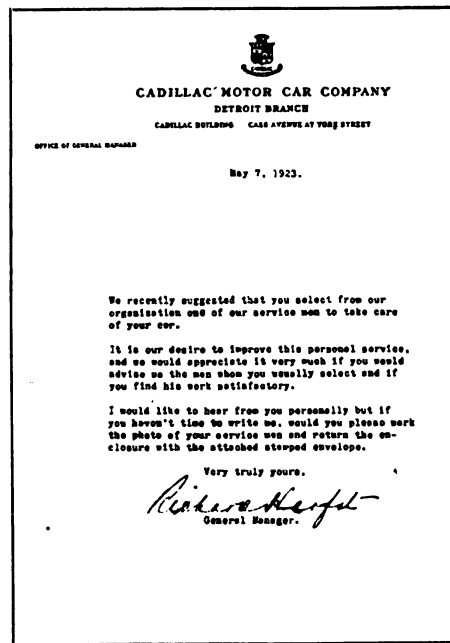
"Has the service salesman indicated on the opposite page given you good service?", was the first question asked. "Do you find our flat rate system satisfactory?", was the second. Space was also provided for any suggestions the owner might make as to how the company's service might be improved.

What prompted this idea was explained by Harfst in detail in a paper read before the Service Managers' Convention of the National Automobile Chamber of Commerce held the middle of May in Detroit.

"Every now and then," he said, "I receive complaints from owners that their cars have been in for the same trouble, two, three, and four times. This is happening all over. It is nothing peculiar to us. And it is always annoying to us, but more so to the customer. He thinks we're careless, inefficient, and rotten.

"A lady called me on the phone one day, saying that she hesitated to bother me, but she had had her car in five different times and it was still unsatisfactory, and therefore she was obliged to appeal to the boss.

"Naturally I thanked her for calling my attention to her difficulty and I promised to fix it. Before her car came in again I looked up the records and found that she had actually been in five times and had been waited on by five different service men, none of whom knew, nor had taken the time to look up what the previous fellow had done, so had simply ordered what



A follow-up letter sought criticisms

he thought would fix it, and let it go at that. I decided right then and there to plug that particular leak,—so hit upon this individual service plan."

Harfst has found that the idea was as eagerly welcomed by the men in the shop as by Cadillac owners.

"I found that the scheme put our boys on their metal," he states. It sort of flattered them to be asked for. They began making friends; they took a keen interest and more pride in their work. They were making more good-will. And incidentally, but not least of all, we found that owners were being saved money by avoiding repeat jobs.

"For instance, one service man may decide to clean the carbon, the next one may adjust the ignition, another may order the grinding of valves, and another may find the muffler plugged. Under our present plan, if an owner comes in a second time to complain of the same trouble to the fellow who had his car last, that chap feels the failure of having wrongly diagnosed

the trouble and will then go over the job very carefully to find the real trouble and fix it.

"Our boys are on their toes now to avoid come-backs. As I said before they are taking a real pride in their work and seem to be actually happier in their jobs than before."

Harfst believes thoroughly that the only way to find out how such a plan takes with the customers is to ask them. That is why he worked up the letter and folder already described.

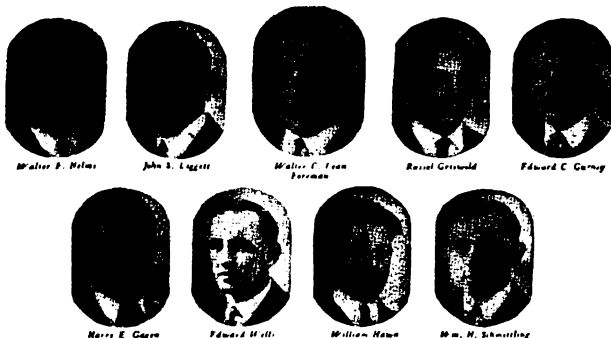
The questionnaire brought in many replies among which not a single one answered negatively about the individual service plan. Where "kicks" were made they were about other things.

"I told our boys some time ago," says Harfst, "that we want them to fix cars not merely because they are paid for it, but for the sheer thrill of fixing troubles.

"I want our boys to realize that they have a unique opportunity to convert owners from dissatisfaction to satisfaction, from unhappiness to happiness in the ownership of our cars. The boys pictured in the folder are the important men in our organization—more important than the service manager or sales manager because they are the creators of good-will and lay the foundation for future business."

Indeed, Harfst finds the good service man a real asset to the company fortunate enough to have him on the payroll. He describes him as one having a broad perspective of his work and a keen and sympathetic understanding of the relation between the servicing and marketing of cars.

Into the hands of such men the Cadillac Motor Car Co. in Detroit endeavors to place the service work of its customers. In such men it urges all customers to place their confidence in the firm conviction that through individual service, interest will be created in the employe and satisfaction in the owner.



Has the service salesman indicated on the opposite page given you good service?

Do you find our flat rate system satisfactory?

Give suggestions, if any, how we can improve our service

(Use other side if necessary)

Address

Name

On one side of the folder the customer was urged to check the man doing his work; on the other to answer the questions

Putting Over the Call of the Great Out-Doors

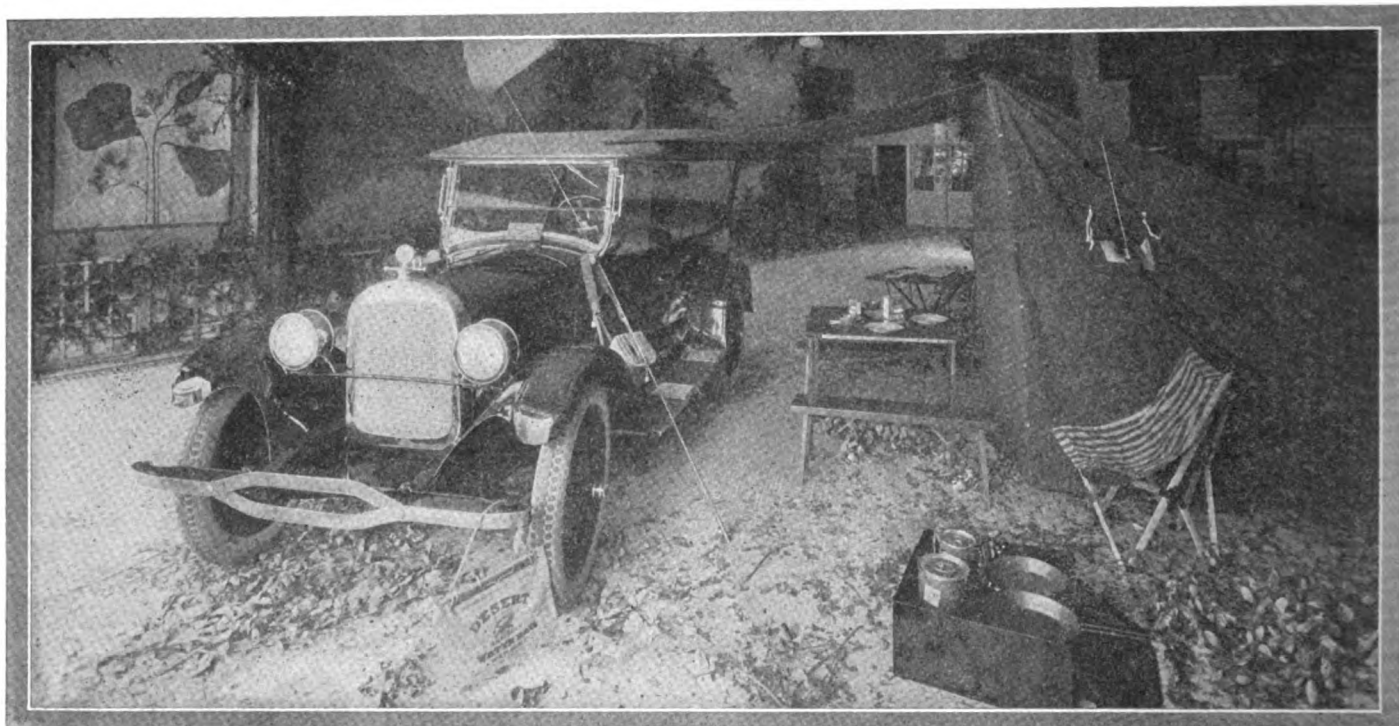
THEY'RE still talking about it out in the City of the Golden Gate. For the Call of the Open Road Week stirred up much comment, and business, too, judging from reports received from along the Pacific Coast.

Harold L. Arnold, Hudson and Essex representative in Los Angeles shared in the week's activities by showing the famous "Essex Flyer" painted in oils.



Pictures on the automobile are of typical scenery of the South-West with a map naming all the most important points in the territory skillfully blended in. In spite of the fact that it was painted in 1919 there is not a scratch to be seen on the machine.

It was in the first carload of Essex cars to reach Los Angeles and now shows a total of over 90,000 miles on the speedometer

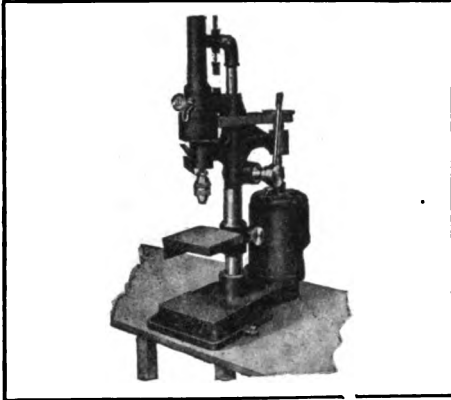


Salesrooms of the Durant-Steves Motors, Inc., in San Francisco were decorated to represent a camping scene. As an additional attraction three shows of the Durant "Go-Get-Em" film were given each night to enthusiastic audiences

OFFERINGS OF AID ABOUT THE SHOP

E-50 BENCH DRILL PRESS IS A HIGH-SPEED MACHINE

Built with precision, for continuous service, to meet both tool room and production requirements is the Model E-50 bench drill press which is being produced by the High Speed Hammer Co., Inc., Rochester, N. Y. This is a two-speed, direct motor drive high-speed, ball-



Model E-50 bench drill press

bearing drill designed to care for all work ranging from the smallest to a 1/4-inch hole.

Standard spindle speeds are 2,100 and 6,000 r. p. m. Main spindle is heat treated and ground to size and is guided through a quill with support at each end in an annular ball bearing. End thrust is taken up by an end thrust ball bearing under the feed arm.

A quick adjustable table has a working surface 5 1/2 by five inches and will take work up to 4 3/8 inches in height. Surface is ground to insure accuracy and the table has a self-cleaning taper which keeps the precisely ground main column free from chips and serves also as a guard to prevent injury to column.

Base has a ground working surface 4 by 6 inches and will take work up to 7 1/2 inches in height. There is also an oil-groove and self-cleaning column support.

A feature upon which special emphasis is laid is a spindle lock enabling quick changes of drills without the operator's hands coming in contact with belt or pulleys. An idler pulley takes up any belt stretch. Front pulley and upper part of spindle are guarded by a semi-tubular guard, insuring safety. Machine may be operated either by hand or foot control. It is equipped with foot treadle if so desired.

Cap and Set Screws in Assortments

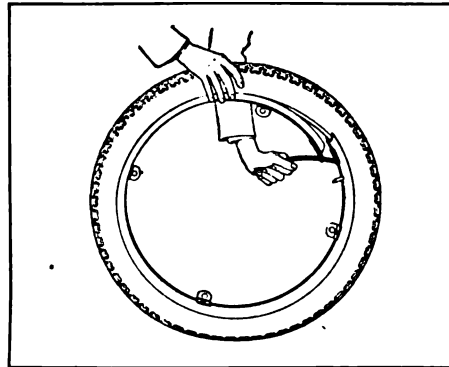
For greater convenience in handling over the counter the Cleveland Wrought Products Co., Cleveland, Ohio, is offering

its cap and set screws in assortments. The assortments include 300 screws which have been divided into 25 small boxes of six to thirty screws each, comprising 95 per cent of the leading sizes. As the boxes are sold they can be easily replaced, thus keeping the assortment always complete.

LEVER-LOCK CONTRACTS RIM AND EXPANDS IT

Pressing down the handle contracts the rim; the lever is then pushed and the rim taken out. This is the method of operation of the Lever-Lock which is being produced by the Lever-Lock Rim Co., 41 East 42nd street, New York city. This rim-removing device can be installed on the rim in a few minutes and it becomes an integral part thereof.

Instantaneous contraction of the rim is accomplished through the first lever movement, which it is said, requires but a few pounds pressure. The re-setting requires but a slight pull to start the lever.



Lever-Lock

It is then pressed to keep it from snapping back into position.

Lever-locks can be applied to rims for either straight sides or clincher tires. They range in price from \$3.50 to \$4.50 per set of five.

HELTZEL GREASE RACK IS SUBSTANTIALLY MADE

A grease rack that makes it possible to grease or inspect the running gear of the car without having to stoop has been placed on the market by the Heltzel Steel Form and Iron Co., Warren, Ohio. The Heltzel rack is portable, cannot collapse, it is said, is indestructible, and strong enough to carry any make or type of car.

It is made entirely of steel and consists of seven individual units. The simple application of sixteen bolts, and the rack is erected complete. Erection requires the service of two men and approximately one hour's time.

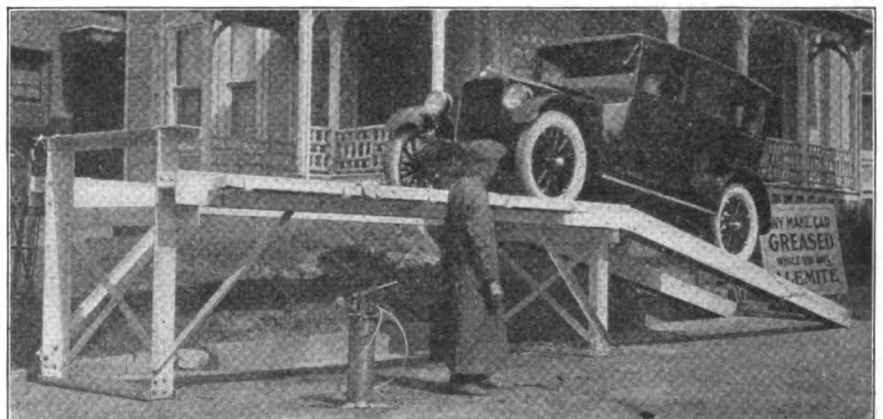
Wide bases permit setting the rack on the ground or garage floor, no foundation being required. Heavy steel supports are riveted to the base, and there are also rigid steel cross braces.

Special heavy steel beams with deep grooves engage the wheels. These are provided with steel treads to prevent the wheels from skidding. A substantial, steel bumper prevents the car being driven off the end of the greasing rack, and an anchor chain engages with the front axle.

A hinged joint connects the inclined approach to the rack proper. This joint permits the rack to be placed on any uneven ground or garage floor.

Length of the rack over all is 30 feet; height is 50 inches. A four-foot clearance enables the mechanic to get under the rack and accomplish the work standing up straight.

In addition to the advantage of this rack from the garage owner's viewpoint it is also of service to the automobile dealer in enabling his prospective customers to step right under the car and see the entire running gear as it appears from the road, without any personal discomfort.



Heltzel grease rack is strong enough to carry any make of automobile

BOOKS: BOTH TIMELY AND INSTRUCTIVE

"MOTOR CAMPING" TELLS HOW IT IS ACTUALLY DONE

Motor Camping, by J. C. Long, and John D. Long. Published by Dodd, Mead & Co., New York. Price, \$2.

There are many car owners anxious to take to the road during the vacation period, but who find themselves at a loss to know just how to go about it. To such is recommended a careful reading of "Motor Camping," by J. C. Long and John D. Long which has just been published, and which contains the very latest information on how to get the greatest enjoyment and comfort out of life on the road.

This volume, which is of added interest to the trade through bearing the name of John C. Long, secretary of the Educational Department of the National Automobile Chamber of Commerce as one of its authors, may be described as a guide book. In its pages are recounted practical experiences of camp life, which teach how to deal with the various problems which arise. Simple receipts for camp menus are given and different types of tent and sleeping equipment are described. Cooking utensils are also discussed.

A special chapter is provided for those planning merely to camp out over the weekend. In another section space is devoted exclusively to the Ford owner as well as to those devices pertaining to that particular car. Still another chapter gives a complete description with diagrams, of how to make a home-made camping outfit.

It is not merely equipment, however, that the book stresses. The authors have gone even further and offered real aid in telling the motorist where to find the "open places." Arranged in tabular form are two thousand or more camping sites, classified according to states. State laws governing motor vehicles, trailers, hunting, and fishing are also given. Twenty-two photographs add materially to the interest of the subject.

To those looking for pointers on life in the open via the automobile, "Motor Camping" offers much valuable information. It is a book that the car owner may well examine, before he starts out, and take along with him for further reference. Every dealer, therefore, may well call it to his customers' attention with the knowledge that in so doing he is performing a real service.

HIGHWAY TRANSPORTATION IS SUBJECT OF TREATISE

Highways and Highway Transportation, by George R. Chatburn. Published by the Thomas Y. Crowell Co., New York. Price, \$3.

What types of road construction are best fitted for permanent use? How may they be improved and safeguarded?

Such important questions as these are discussed by George R. Chatburn in his vol-

ume on "Highways and Highway Transportation," recently published by the Thomas Y. Crowell Co., New York. As professor of applied mechanics and machine design, and lecturer on highway engineering in the University of Nebraska, the author has made a most careful survey of his field. It is the fruits of this study that he now offers in book form.

THE VALUE OF READING

PROGRESS demands keeping in touch with the times and where possible keeping just a bit ahead of them. There is just one way to accomplish this—by constant study—by reading a certain amount each day on some subject that will prove mentally stimulating.

In response to a demand for the names of publications that the automobile merchandiser and service station manager may well spend his time on, AUTOMOBILE TOPICS is offering for consideration the volumes mentioned in these brief reviews. Information on any others not appearing will be answered promptly.

In making these introductions and those that are to follow from time to time it is felt that a real service is being performed. Just how great this is, cannot be appreciated until sufficient time has elapsed to reap the benefits from well-chosen and regular reading

The text is divided into two parts—the development of highways, and their use. The first part treats of the relation of transportation to civilization generally. Effects of State and Federal aid upon the road conditions of the Country are described, as is also the planning of highway systems.

There are several chapters on highway accidents and highway aids to traffic in which attention is called to many types of accidents including railway crossing accidents, with suggestions for their mitigation. In this connection are also cited the most practical rules for the regulation of traffic in both city and country.

Of interest to those who have followed highway development from its early stages is the subject of the esthetics of the road. This is embodied in a chapter on aids and attractions to traffic and travel. Safety and warning devices are discussed, with comforts and conveniences for luring the average citizen to the highway, the camps and the parks.

It is not an exhaustive treatise that the

author seeks to lay before the public, but rather a glimpse of the vast development of the road and its importance as an agency for transportation.

Diagrams and illustrations add to the interest with which the subject is developed.

HANDBOOK CITES DANGERS OF AUTOMOBILE GASOLINE

Automobile Gasoline, Its Dangers and Tests, by Augustus H. Gill, S. B., Ph.D. Published by J. B. Lippincott Co., Philadelphia, Pa. Price, \$1.50.

Of the thousands of people coming in daily contact with gasoline it is probably safe to state that comparatively few have any definite knowledge as to its properties, peculiarities and dangers. It is to those automobile drivers, who unknowingly are running risks and imperiling their own lives as well as the lives of their families that Augustus H. Gill, S. B., Ph. D., has directed his handbook on "Automobile Gasoline; Its Dangers and Tests."

Gill had two distinct purposes in mind in gathering the information which he offers in concise form for public consumption. In the first place he wanted to give the automobilist some information about gasoline which he could use to advantage in operating his machine. Secondly, he wanted to give the chemist some information about the tests to be applied, and their interpretation.

While this little volume, therefore, is to a certain extent a compilation, it also represents the author's study and experience. Incidentally it also makes available much of the knowledge contained in the various publications of the U. S. Bureau of Mines, which are either out of print or not quickly obtainable.

From some of the chapter headings may be gained a general idea of the ground covered. The first section takes up the question of Gasolines and Their Manufacture. This is followed by such other closely related topics as: Selection of a Gasoline; Gasoline "Improvers," and Anti-Knock Compounds; Dangers of Gasoline—Explosions; Strange Gasoline Accidents; Gasoline Fires; Gasoline Substitutes; Tests and Their Meaning. There is also an appendix in which tables are found covering specifications, flash points; gravities; heating values and specific heats.

Rim Assn. Issues Booklet

Setting forth the principal facts concerning its organization, aims and activities the Tire and Rim Assn. of America has lately issued its year book. It gives the officers, directors, membership, history, constitution and detailed explanation of its standard in a highly illuminative manner. It is well printed and mounted and becomes a handy adjunct to any library of references.

WITH THE WHOLESALERS AND RETAILERS

OAKLAND OCCUPYING ITS NEW PHILADELPHIA HOME

Quarters at Broad and Brown Streets Provide Ample Facilities

Oakland Motor Car Co. is now occupying its new quarters at 721-25 Broad street, Philadelphia, at the corner of Brown street. The salesroom is 75 by 44 feet, and has modern equipment throughout. Retail sales offices are in the rear of the building.

The second floor with a frontage of 125 feet on Broad street, is employed almost exclusively as a used-car salesroom. General manager and wholesale officers are also on this floor. Service station and parts department is at 31st and Dauphin streets and occupies 41,000 square feet. C. E. Wells is branch manager and J. H. Stafford, retail sales manager.

Plan Mutual Garage

Dealers of Marshalltown, Ia., are completing plans for a cooperative garage and service club under the name of the Marshalltown Motor Club. Fees of \$75 per year for passenger cars and \$100 for trucks are being considered. For this sum, each member gets complete and unrestricted service throughout the year without additional cost.

Shows Old Timers

In connection with New York city's Silver Jubilee the Rickenbacker agency at 57th street and Broadway is showing pictures of automobiles of a decade or so ago in comparison with current models of automobiles. This is particularly timely as photographs of New York city 25 years ago when the boroughs were consolidated, are being exhibited all over the city, contrasted with scenes of today.

N. C. Gas Bill Estimated

North Carolinians are expected to spend \$25,000,000 for gasoline this year. Secretary of State has made this estimate and anticipates collection of \$2,500,000 from a gasoline tax of three per cent per gallon. With a one cent a gallon tax last year the State collected \$800,000.

Schiller with India Rubber Co.

J. P. Schiller, who has been identified in automotive circles on the Pacific Coast for several years, has joined the India Tire & Rubber Co. as Southern California representative, with headquarters in Los Angeles. His affiliation with the industry dates back to 1912 when he was sales and service representative for the

Woods Motor Vehicle Co., of Chicago. Since then he has been with the B. F. Goodrich Rubber Co. and the Willard Storage Battery Co. In 1919 he organized and became president of the J. P. Schiller Co., distributor of automotive specialties, his interest in which was relinquished to make his new connection.

NEW YORK BOOSTERS FORMED

Representatives Join Boston Body

New York Boosters' Assn., under a chapter charter of the New England Boosters' Club—the well-known Boston Boosters—was formed at a meeting held at the Onondaga Hotel, Syracuse, N. Y. Membership is to be limited to 100 manufacturers' representatives who call regularly on the equipment jobbing trade throughout New York State.

Temporary officers are: Harry Solomon, National Welding Co., president; D. E. Malican, No-Leak-O Piston Ring Co., treasurer; E. I. Firestone, Black & Decker Mfg. Co., secretary. Directors were elected as follows: J. G. Crook, Raybestos Co.; E. Luman Mills, Klaxon Co.; C. E. Burlingame, Brunner Mfg. Co.; W. Cormack, McKinnon Dash Co.; A. D. Storti, Carr Fastener Co.; and R. J. Meredith, Thermoid Rubber Co.

To Examine Hire Vehicle Drivers

South Carolina railroad commission will soon begin a tour of the State to hold examinations for applicants to drive motor vehicles for hire. Every county seat in the State will be visited. Drivers having no licenses after the tour is completed will be prosecuted.

Speedometer Co. Gets N. Y. Site

Expansion program of the Stewart-Warner Speedometer Co. is taking definite shape in the purchase of a lot 100 feet square on the north side of West 65th street, New York city. A building will be erected on this site to serve as the Eastern distributing headquarters of the Company.

WHOLESALE ACTIVITIES

L. E. Tait Auto Co., located at 1640 O street, Lincoln, Neb., has been awarded the right to handle the Auburn line.

Hyatt Motor Co., of Asheville, N. C., has been granted 1923 selling contracts for the Jordan line. Granted territory comprises all of western North Carolina. The Hyatt Motor Co. handles the Hummobile and Peerless in addition to the Jordan line.

A. L. Bowen Auto Co., of Van Wert, O., has secured the right to distribute the Auburn automobile. Headquarters of the concern are located at 121-123 North Market.

N. Y. Closed Car Show in October

Under the auspices of the Automobile Merchants' Assn. of New York, the annual closed car show will be held in Grand Central Palace during the first week in October. In addition to regular show features an educational and safety campaign will be held. The committee in charge of the show is as follows: C. H. Larson, Cutting, Larson Co., Inc.; Lee J. Eastman, Packard Motor Car Co.; J. B. Hulett, Hulett Motor Car Co.; S. S. Toback, Marmon Automobile Co., of New York; Harry S. Houpt, Hudson Motor Car Co.; J. A. Clark, Van Cortlandt Vehicle Corp., and William C. Poertner, Poertner Motor Sales Co.

IN THE TRADE

EASTERN STATES

MASSACHUSETTS—LEE.—An addition to be used as a machine shop is being constructed to the new garage of Sullivan & Hale.

NORTH ADAMS.—A new salesroom has been opened at Summer and Ashland streets by O. W. Gavett, proprietor of the City Auto Repair and Service Station, where he will handle the Velie line.

NEW YORK—NEW YORK.—Annabach Garage, Inc., has leased the building located 118 West Fifth street. Paul Clayman is president of the firm.

PENNSYLVANIA—BROWNSVILLE.—Cole Motor Car Co. of Indianapolis, Ind., has appointed Garrett's Garage to handle the Cole line.

CLEARFIELD.—Derrick Brothers, located at Third street between Market and Locust, have been appointed to handle the Maxwell-Chalmers automobile.

EPHRATA.—Auburn distributing contracts have been awarded Mark Shirk. Headquarters are located at 118 South State street.

SOUTH

WEST VIRGINIA—BERKELEY SPRINGS.—Berkeley Motor Co., located on Washington street, has been granted 1923 selling franchises for the Chalmers line.

ROWLESBURG.—Maxwell-Chalmers distributing contracts have been awarded C. M. Shafer. Salesrooms are located on Buffalo street.

NORTH CAROLINA—GREENSBORO.—Carolina Motor Supply Co. has been organized here for the purpose of conducting an automobile accessory business. Headquarters are located at 120 North Davis street.

SOUTH CAROLINA—CHARLESTON.—A general automobile business will be conducted here by S. N. and A. Settille to be known as the Settille-Chevrolet Co.

TENNESSEE—MEMPHIS.—H. H. Roth Co. will start work on a new five-story garage structure to be located on Union avenue.

KENTUCKY—MORGANFIELD.—Maxwell-Chalmers distributing contracts have been granted Mason and Taylor by John W. Field of Owensburg, Ky. Headquarters are located on Main street.

MIDDLEWEST

OHIO—CALDWELL.—Watson and Renner have been granted the Maxwell-Chalmers franchise by the Gillis Moss Motor Car Co. of Cambridge, O.

ELYRIA.—With headquarters located at 105

Broad street, the M. & R. Auto Company has been appointed by the Avenue Motors, of Cleveland, to handle Chalmers cars.

INDIANA—INDIANAPOLIS.—A tire and battery shop has been opened at 463 Blake street by Edward M. Guss.

ILLINOIS—BATAVIA.—Cole selling contracts have been awarded C. N. More of this city.

PERU.—With headquarters located at 912 Peoria street, the Peru Motor Co. has been granted the right to handle the Auburn.

WISCONSIN—BELOIT.—Cole distributing rights have been granted F. O. Eddy.

DEPERE.—A battery station has been opened by L. O. Maurer.

GAYS MILLS.—Daggett-Yewdale Motor Co., of Milwaukee, Wis., has appointed the Buick Garage to handle the Gray.

MADISON.—Auburn selling rights have been granted the Wall Shepard Sales Co.

PESHTIGO.—Walter Kopplin has sold his interest in the Peshtigo Battery and Vulcanizing shop to his partner, Max Barth.

LUTESVILLE.—Walker & Sons Hardware Co. of this city has been granted distributing contracts for the Nash line.

MADISON.—Johnson Brothers have purchased the Madison Motor Inn.

MARSHALL.—Work is about completed on the Orrison-McArthur Garage. An extension is being constructed on the rear of the building, which will be used as a modern automobile paint shop.

NEW MADRID.—A modern garage has been opened by J. W. Montague in the Waters building.

ST. JOSEPH.—Fire considerably damaged the garage of the Rullman Auto Co. building located at Seventh and Charles streets.

ST. LOUIS.—Bishop & Co., with Frank Bishop as manager, has opened sales quarters in the showroom of the Lake-Del garage building located at 5180 Delmar Blvd.—Sales and service quarters have been opened at 3917 Washington Blvd. by the Mac-Dry Battery Co. C. L. Magann is president and manager of the concern.—Price-Hollister Co., located at 2739 Locust street, has been opened here with Charles W. Price, president; G. S. Hollister,

Melton, will carry a full line of Chevrolet cars, automobile accessories and tires.

DOWNS.—W. J. Ketler Garage has been leased by James Covert.

ELDORADO.—O. Kistler has leased the location at 110 West First avenue and has opened a tire shop to be known as the Otto Kistler Tire Store.

FT. SCOTT.—Additions made to the new garage of L. de Stowinska, located on National avenue, are about completed.

GYPSUM.—John Driscoll has purchased the McFarland Garage and will take active control of the business.

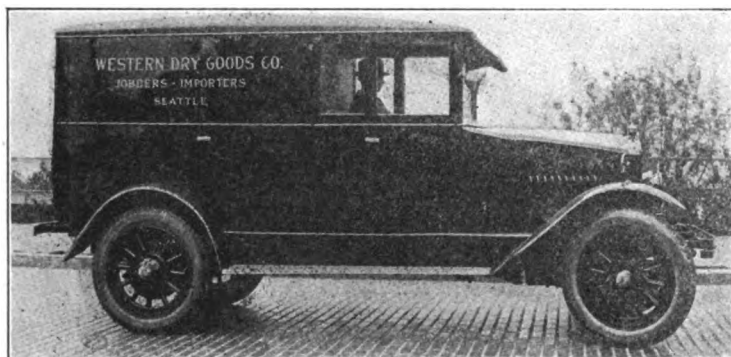
INGALLS.—Rose Brothers have opened a new garage in this city.

MADISON.—Harry Colton has opened an automobile repair shop on East Main street.—A battery and Electrical Service station will be conducted by D. Braucher of this city.

SALINA.—Half interest of I. C. Henry in the Battery Service Station, located on North Seventh street, has been sold to his junior partner, H. N. Bradley. In the future the shop will be conducted

New Transportation Unit Created for Seattle Firm

A NEW method of transporting samples for salesmen has been put into operation by the Western Dry Goods Co. of Seattle, Wash., through the assistance of the Elridge-Buick Co., distributor of GMC trucks. It is an especially constructed body with various compartments into which the salesman packs 42 telescope cases



PORT WASHINGTON.—A tire and vulcanizing shop has been opened on Lower Grand avenue by A. Worm.

RHINELANDER.—Kristensen's Garage has secured 1923 selling franchises for the Gray line.

SPRING GREEN.—Contracts for the Gray automobile have been granted W. E. Schauf of this city.

IOWA—DAVENPORT.—A machine shop has been opened at Fourth and Marquette streets by T. B. Flynn, proprietor of the Mack Truck Service Co. Flynn will specialize in welding, automobile repairing and general machine work.

MISSOURI—CHILLICOTHE.—Bland Miller has sold the Exide Battery Station located at 707 Locust street to R. C. Gregory.

JEFFERSON CITY.—J. W. Bax has purchased from Forrest L. Erhardt and Arthur L. Fischer the garage on St. Mary's Blvd.

KANSAS CITY.—S. & S. Garage, located at 4229 Troost avenue, has been leased to L. G. Sprague, who will conduct a general garage business.—Ramsey Motors, successors to the Midwest-Oldsmobile Co., has moved into new quarters at Twenty-sixth street and Grand avenue. S. W. Ramsey is president of the concern.

LOUISIANA.—Work is about completed on the garage building being erected for the Louisiana Motor Co. on South Carolina street.

vice-president, and R. L. MacDonald, secretary and treasurer of the firm.

Walsh Motor Car Co., Ford and Lincoln dealer, located at 4919 Delmar Blvd., has started construction on its new building to be situated at 5137 Delmar Blvd.—Haftner-Conlee Auto Sales Co. has been appointed an associate dealer for the Gray automobile by the Anderson-Strauss Co. Grover C. Conlee and Morris Haftner, partners in the concern, have been granted selling franchises for the Oldsmobile line.

SENECA.—Thomas & Cole, proprietors of the Stone Garage, have started extensive improvements to their garage building. B. Thomas and Homer Cole compose the firm.

SHERIDAN.—Clarence Wilson has purchased the interest of Floyd Brogan and S. M. Churchill in the Farmers Garage.

SPRINGFIELD.—Work is about completed on the garage being constructed at 1028 St. Louis street by E. H. Karsten.

KANSAS—ATCHISON.—S. Quackenbush, who has been operating a tire and vulcanizing shop at Eighth and Main streets, has moved to his new garage at Tenth and Commercial streets.

ATHOL.—A battery recharging outfit has been installed in the Lewis Clark Garage.

COUNCIL GROVE.—A. J. Howard has sold the Central Garage to Guy H. Melton, Chevrolet agent.

under the name of the Bradley Battery Shop.—South Santa Fe Tire Store has been opened at 151 South Santa Fe, by W. H. Saul.

TOPEKA.—G. C. Willis, owner of the Willis Motors Co., located at 1014 Kansas avenue, has sold his agency to H. A. Perkins and J. H. Close.

NEBRASKA—AUBURN.—H. C. Allen has sold his garage and repair shop to A. C. Gerdes.

BROCK.—Lare Garage has been purchased by Agee and Smedley.

BUTTE.—Christian Serr has purchased a garage at Naper, Neb., and will be in charge of same.

MULLEN.—Morrison Motor Co. has been purchased by H. C. Stickley of this city.

PLATTSMOUTH.—George Decker has bought the repair shop located on South Sixth street and formerly owned by Clifford Clark.

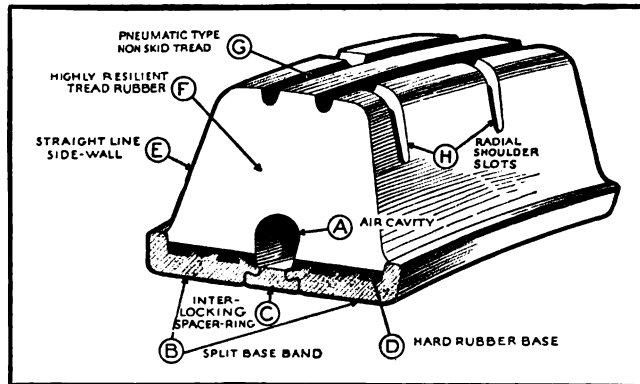
SHUBERT.—A tire and battery service station will be opened here by Edward Golyer.

WAHOO.—A modern garage will be erected by George W. Swanson of this city.

SOUTHWEST

ARKANSAS—FT. SMITH.—Interest of Smith Humphrey in the Humphrey-Ellefson Tire & Battery Co. has been purchased by George Ellefson, who will in the future conduct the business as the Ellefson Tire & Battery Co.

In Response to the Insistent Demand for A Cushion Tire of United States Quality



The New United States Cushion Truck Tire with the New Pneumatic Type Tread

AS YOU see from this sectional view, this new U. S. Cushion Truck Tire is a *marked scientific advance* over the cushion tires on the market heretofore.

With points of the greatest *practical interest* to Truck and Bus Operators.

Give particular attention to the shape of the *air cavity*.

When loaded, the rubber wall bulges partly *inward*. This relieves outside deformation about the base channels. It permits a *greater total deflection*. It gives the U. S. Cushion Tire a *cushioning quality* that is closer to the pneumatic than any other tire of the cushion type.

Because these tires so nearly approach the *pneumatic in action*—that it has been possible to give them a *pneumatic-type non-skid tread*. That insures the maximum traction

and the minimum of slip and skid.

U. S. Cushion Tires have the most satisfactory base yet developed in a cushion tire.

They will not stretch or crush in the press when being applied to a wheel.

They can be fitted as accurately as a one-piece base solid tire.

They have a *straight line contour*, giving maximum width and height and superior cushioning.

The United States Truck Tire line provides a tire for every possible class of service. The United States Truck Tire Service dealer, working with the data compiled by the Technical Service Department of the United States Tire Company, is equipped to advise with you intelligently about your truck tire equipment. Tell him your problems.



United States Cushion Tires are Good Tires



Trade Mark

NORTH LITTLE ROCK.—Whiney Harb, Ford dealer, has opened in a new building on Third and Orange streets.

PRESCOTT.—C. N. Thomas has recently opened a general repair shop on West Main street to be known as the Thomas Auto Welding and Battery Service.

RISON.—A partnership in the automobile repair business has been formed by Wallace Hobson and Russell Hawkins.

WALNUT RIDGE.—With selling contracts for the Overland line the Walnut Ridge Motor Co. has opened here.

TEXAS—HOUSTON.—N. J. King has been made associate dealer for Chevrolet automobiles by the Edison Motor Co.

NAVASOTA.—G. A. Goodman Garage has been purchased by C. C. Short.

PALESTINE.—A new building will be erected on North John street for the Garrett Motor Co.

VAN ALSTYNE.—Service Garage has been purchased by A. H. Schooling and S. H. Thompson from Hugh McCord.

VICTORIA.—Ruckman Motor Co. and the City Garage have consolidated under the name of the Ruckman Motor Co. Headquarters in the future will be located in the Kreisle building at 206 North Main street. The Ruckman Motor Co. will retain the agency for the Chevrolet and will carry a complete line of tires, tubes and automobile accessories.

ROCKY MOUNTAINS

IDAHO—BURLEY.—Gooding Motor Co. now occupies new quarters in the Bulck Garage.

CONOR D'ALENE.—Chandler distributing contracts have been granted the Lidsley Motor Co.

IDAHO FALLS.—Idaho Motor Co. has been sold to C. F. Churchill. F. K. Mittry was the former owner.

POCATELLO.—With headquarters in the Highway Garage, Spencer & Dundberg, Hudson and Essex dealers, have opened a branch here.

WEISER.—Western Motor Sales Co., Maxwell agency, has opened on West Idaho street. W. A. Fulkerson is manager of the firm.

UTAH—ST. GEORGE.—Selling contracts for the Maxwell-Chalmers have been granted Show and Cannon.

TREMENTON.—Midland Auto Service Co. has been awarded distributing rights for the Maxwell-Chalmers line.

PACIFIC COAST

WASHINGTON—ABERDEEN.—Grayport Motors Co., Durant and Star agency, now occupy new quarters in the former Liberty Garage located on Market and K streets. Henry Callison is manager of the firm.

ANACORTES.—Dodson & Watkinson have moved their tire surgery shop to a new building located opposite the New Wilson Hotel.

CENTRALIA.—Cleveland selling rights have been awarded Furber and MacIntyre.

DAYTON.—J. Neal and H. J. Owens have opened the Neal & Owens Repair Shop in the Yellowstone Garage.

HOQUIAM.—Repair department of C. H. Ward & Co. Garage has been purchased by Frederick E. Edison.

MAROUS.—G. M. Peterson has been awarded 1923 selling contracts for the Cleveland automobile.

SPRINGDALE.—Cleveland selling rights have been secured by W. F. Stevens.

TACOMA.—A branch of the Parsons Motor Co., Stutz distributor, has been opened by E. S. Thayer in the Stadium Garage, Second and G streets. It will be known as the Tacoma Stutz Co.

TONASKET.—R. S. Henry is the manager of the new branch of the B. A. Thayer Motor Co., Dodge Brothers agents.

OREGON—SALEM.—Prest-O-Lite Battery Station is now located at Court and High streets.

CALIFORNIA—ALAMEDA.—Distributing contracts for the Overland and Willys-Knights have been secured by the Park Street Garage. Headquarters of the firm are located at 1600 Park street.

BAKERSFIELD.—Cleveland distributing contracts have been granted E. B. Wood, of 1520 Twenty-first street.

BALDWIN PARK.—A. R. Foss has sold the Foss Garage to B. P. McIver.

BELLEFLOWER.—A brick sales and garage building will be erected on Somerset Blvd. by the Belleflower Garage, Ford agency.

COLTON.—Agency for the Chevrolet automobile has been taken over by the Crescent Garage.

COMPTON.—Bulck agency will be opened by H. N. Griffin in a new building located on Main street.

COVINA.—A branch of the Foothill Nash Sales Co. has been opened on North Citrus avenue. C. R. Doris is manager of the firm.

GARDENA.—M. A. Hennis, Studebaker agent, is now in his new building located on Palm and Menlo streets.

HANFORD.—A new tile-front garage is being erected for Spear Brothers at West Ninth street.

HEMET.—R. G. Record, of Record Brothers, has leased the Monte Vista Garage.

HOLLISTER.—Selling contracts for the Maxwell line have been granted Gilbert and Berg of this city.

HUNTINGTON PARK.—A large branch salesroom will be erected on North Pacific Blvd. for the Albertson Motor Co., who handle the Dodge Brothers line.

LODI.—A repair shop has been opened in the Christner Motor Co. Garage on North Sacramento street, by J. E. Edwards, formerly with the Dodge Garage.

LOS ANGELES.—O. G. Sterling, formerly sales manager of J. W. Frieden, Hudson and Essex agency in San Diego, has been granted Chandler and Cleveland selling contracts. Headquarters are located at 116 North Western avenue.—Kilgore & Sopp are now located in a new building at 203 North Pacific Blvd. They handle the Chevrolet automobile.—Cassel & Hanson have sold the Standard Motor Service, located on North Western avenue, to S. Markowitz.

MANTECA.—J. A. Wolter has sold his interest in the City Garage to his partner, Enrique Viera.

MENLO PARK.—Harry Swain has reopened the Menlo Park Garage.

MODESTO.—E. H. Morris has sold the Packard agency to F. W. Hosmer.

MONTEREY.—Cleveland selling contracts have been awarded H. D. Bragg of this city.

NEWPORT BEACH.—A concrete addition to the East, Newport Garage on Bay street will double the size of the building.

OAKLAND.—A new service and repair shop building is being added to the building of Hamlin & Wichman, Hudson and Essex agents.—V. G. Bates has opened the Bates Garage and Repair Shop at 130 Twelfth street, specializing in Ford work.

PETALUMA.—A new garage has been opened by Walter Glazier on Third street.—Winter & Offutt will succeed the Grandi Co. as Durant and Star agents.

PITTSBURG.—Selling contracts for the Jewett automobile have been granted S. Carusa.—Distributing contracts for the Ford have been secured by Frank R. Beede. Headquarters are located in the Los Medanos Garage.

PUNENTE.—A. G. Graham has purchased an interest in Harden's Service Garage, Chevrolet agency.

RIVERSIDE.—A used car sales and service garage has been opened at 855 West Eighth street by L. L. Bacon & Co.

SAN BERNARDINO.—Knight's Service Station, located at Third and G streets, has been purchased by Dunbar Brothers, who have added the Pennsylvania tire agency.

SAN FRANCISCO.—T. A. McDonald has purchased the Tivoli Garage from E. C. Crain.

SAN LUIS OBISPO.—Western Auto Supply Co. has appointed R. H. Williams as branch manager.

SANTA BARBARA.—Repair department of the Hotel Garage on Chapala street has been taken over by Clement, Planas & Murdock.

SAN JOSE.—Distributing contracts for the Auburn automobile have been awarded Vincent Koch of this city.

SAN JUAN.—San Juan Garage, owned by Harry Harper, has been sold to Frank Gonzales.

WHITTIER.—H. O. Pence, formerly of San Diego, now has charge of the Western Auto Supply Co. of this city.

NEWSPAPER SAY SO

A picture of a vast system of motor highways, so divided as to provide a roadway for various classes of traffic, has been drawn for the attention of taxpayers already staggering under a burden of road taxes which, if it were not cleverly distributed, would result in the kind of emphatic dissatisfaction that creates political upheavals. It is proposed that main roads entering the city be widened and beautified, and divided so that tourists passing through will have a straight run unhampered by the presence of trucks or other slow-moving vehicles. These roads would extend for an indefinite distance into the country to enable the tourist to get a good start.

The vision is one to captivate the fancy, and the time may come when it will be necessary to provide more road room from the suburbs to the heart of the city. Plans for widening and straightening main thoroughfares to the more populous suburbs have already been far advanced and have met with general approval. But no general plan for widening streets and the highways with which they connect at the edge of the city will be justified until full advantage has been taken of existing roadways, and this will not be done until the traffic congestion forces the use of common sense in regulating road traffic.

Road traffic in Indiana, as in many other states, is in a deplorable state of confusion. . . . The state has failed to regulate the use of lights in night driving, it has failed to regulate speed, and it has failed to force the meager provisions for traffic regulation. Until it does this, and the cities join and abolish parking on main thoroughfares and remove other obstructions to orderly and expeditious traffic, it is idle to talk about more expensive roadways.—INDIANAPOLIS News.

The first quarter under the new British scheme for the restriction of rubber output ended May 1. During that period output was reduced to 60 per cent of so-called "normal" on the theory that prices could thus be kept at or above 83c a pound, which it was thought would provide a fair rate of profit for the average plantation. At first prices rose to well above this figure, but before the quarter was over demand had become so slack in both the American and British markets that they fell below it, with the result that only 5 percent more will be released in the coming quarter than in the last, although it was commonly thought when the scheme was first put into effect that prices would rise high enough to bring out 10 percent more in the second quarter.

The British seem to be satisfied thus far with the way the scheme has worked, although they freely admit that considerably more than the authorized 60 per cent of normal output was actually put on the market during the last quarter. The "leaks" occur not only through the methods of issuing export licenses and coupons, which take the place of licenses for native planters who do not do any exporting on their own account, but also in the over-estimating on the part of native planters of the size of their "normal" output. Planters who are not in sympathy with the scheme, of whom there are a considerable number, especially among the natives, are thus given an easy opportunity to defeat its purposes and profit by the surplus that they can thus export.—NEW YORK Journal of Commerce.

American manufacturers differ concerning the degree of danger to the rubber industry from British restriction of the supply of raw material. Before the foreign section of the United States Chamber of Commerce H. S. Firestone denounced the Stevenson committee's restrictions in round terms, while Louis Seiberling found in them no cause for present alarm.

The Firestone view commends itself to the American public more than the Seiberling view; The present is only today; tomorrow is the future when anything may happen. Though the foreign interests

(Continued on page 460, column two)

Stephens Salability—VIII

ONE dealer in every six who have inquired about the new Stephens line since January, is now a member of the Stephens family.

As many more applicants wanted to sign contracts, but failed to measure up to the standards required of Stephens franchise-owners.

Salability of the seven great new Stephens cars was the biggest factor, of course, in this unusual record.

But Stephens dealer policies also counted heavily. Our new friends found them as liberal and human as ample resources and a decent regard for the dealer's problems could make them. For instance:

We do not dictate selling quotas for our dealers.

We do not force cars on them.

We look on our dealers as business men, with a right to run and control their own businesses.

We co-operate with our dealers, because by working with them we build for our own future.

We still have a number of fine retail territories open for men or firms of the right caliber. Write us today, at Moline, for full-color catalogue and the facts about the Stephens franchise.

STEPHENS MOTOR CAR COMPANY, INC., Moline, Ill.

STEPHENS

Finer Motor Cars  *At Lower Prices*

Stephens Dealers Are Prospering Everywhere

INCORPORATIONS

NEW YORK.—Edgecomb Garage, Manhattan, N. Y., has changed its name to Mitchell Square Garage. —Levine & Kropf, Manhattan, N. Y. To deal in automobiles and taxicabs. Capital \$10,000. Incorporators: J. Knopf, A. and M. Levine.—Schoenberg Taxi Corp., Manhattan, N. Y. Capital \$10,000. Incorporators: B. Schoenberg, C. L. and M. Birchenall.

Victor Service Corp., Manhattan, N. Y. To manufacture automobiles. Capital \$20,000. Incorporators: H. Wasserman, A. Poorkriss, S. Landau. Automobile Repairing and Welding Co., Manhattan, N. Y. Capital \$10,000. Incorporators: W. G. Louvatt, H. C. Bannister, A. Workshop.

Rabinowitz-Lozovick Bros., Bronx, N. Y. To deal in automobiles. Capital \$15,000. Incorporators: W. and S. Lozovick, L. Berlin.

Boro Oil & Gasoline Stations, Brooklyn, N. Y. Capital \$5,000. Incorporators: M. and N. Rubin.

Queensboro Yellow Cab Corp., Queens, N. Y. Capital \$30,000. Incorporators: J. L. Marallous, F. C. Leininger, R. Malone.

Bronxville Independent Taxi Service, Bronxville, N. Y. Capital \$5,000. Incorporators: J. J. Jansen, S. Corbitt, T. C. Collins.

Woodward Motor Co., Buffalo, N. Y. Capital

business. Capital \$100,000.—Interstate Auto Service Bureau, Inc., Newark, N. J. Capital \$125,000.

DELAWARE.—Autocoes Mfg. Co., Inc., Dover, Del. To manufacture and sell shock absorbers, etc. Capital \$250,000.

Auto-Traffic Corp., Wilmington, Del. To manufacture automobile trucks, etc. Capital \$1,000,000. —Dixie Gasoline, Wilmington, Del. To conduct gasoline stations. Capital \$1,000,000.—Frost Motor Corp., Wilmington, Del. To manufacture internal combustion engines. Capital \$300,000.

Magnum Rubber Products Co., Wilmington, Del. To manufacture tubes and tires. Capital \$21,000,000.—Neel Co., Wilmington, Del. To manufacture automobiles. Capital \$10,000.—Starlock Co., Wilmington, Del. To manufacture Starlock and automobile locks. Capital \$250,000.

WEST VIRGINIA.—Virginian Tire & Rubber, St. Albans, W. Va. Capital \$300,000.

NORTH CAROLINA.—Carolina Motor Supply Co., Greensboro, N. C. To conduct a general automobile accessory business. Capital \$100,000. Incorporators: Paul G. Welsh, G. S. May, John W. Davis.

SOUTH CAROLINA.—Settillie-Chevrolet Co., Charleston, S. C. To conduct a general automobile business. Capital \$15,000. Incorporators: S. Settillie, N. Settillie, Albert Settillie.

OHIO.—Daugherty Rubber Co., Cleveland, O.

corporators: David E. McDaniel, W. H. Bunte, Lester Fairclough.

MICHIGAN.—Schoonmaker Motor Truck Co., Detroit, Mich., has increased its capital from \$1,250,000 to \$2,000,000.

Royal Motor Sales Co., Royal, Mich. Capital \$10,000.

Auto Sales Co., St. Johns, Mich. Capital \$25,000.

WISCONSIN.—Standard Auto Painting Co., Inc., Appleton, Wis. To do general automobile repair, repaint and retrim work. Capital \$20,000. Incorporators: M. Yaner, K. B. Peterson, D. Peterson.

Parker Motor Co., Milwaukee, Wis. Incorporators: R. Tracy, J. Tracy, C. Tracy.

IOWA.—H. G. Nelson Co., Davenport, Ia. To conduct a general automobile business. Capital \$50,000.

MISSOURI.—Bishop & Co., St. Louis, Mo. To conduct an automobile business. Incorporators: George Lawler, John T. Milliken, Carl A. Stolle.

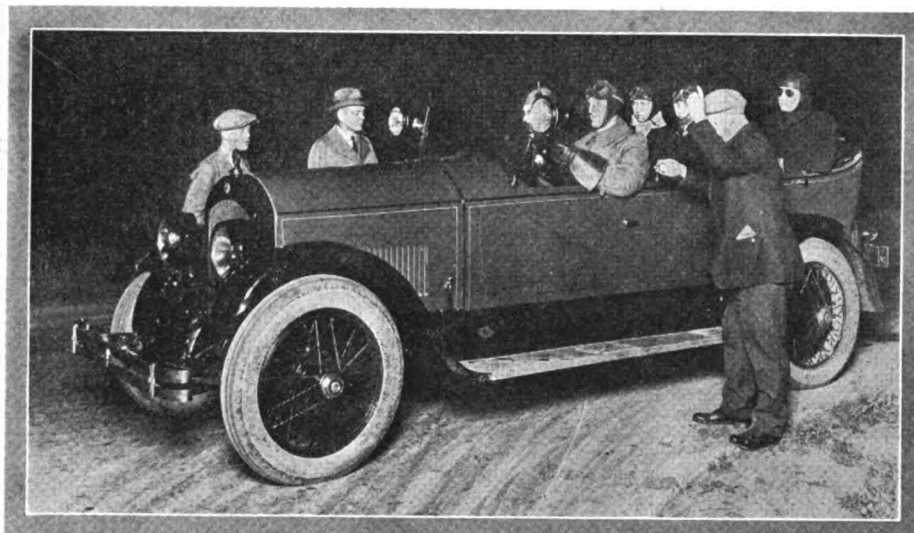
KANSAS.—Universal Motor Car Co., Wichita, Kans. Capital \$100,000.

MINNESOTA.—Brady Motor Co., Lafayette, Minn. Capital \$15,000.

SOUTH DAKOTA.—Motor Service Corp., Aberdeen, S. D. Capital \$25,000. Incorporators: J. W. Malmquist, L. H. Malmquist, N. E. Noess.

Sioux Falls Motor Co., Sioux Falls, S. D. To deal in automobiles. Capital \$100,000.

Makes Round Trip Record in Cole Touring Car



ACCOMPANIED by three press representatives and a mechanic, E. G. Baker, nationally known road speed driver, piloted a Cole touring car between Indianapolis and Cincinnati, a distance of 203 miles, creating a new round trip record of four hours and twenty-two minutes

\$50,000. Incorporators: H. Woodward, F. and L. H. Broker.

Ford Garage Co., Schuylerville, N. Y., has increased its capital from \$50,000 to \$100,000.

Utica Automobile Supply Co., Utica, N. Y. To manufacture accessories. Capital \$50,000. Incorporators: B. and H. and S. Koppel.

Northern Acceptance Corp., Watertown, N. Y. To deal in automobiles. Capital \$100,000. Incorporator: J. C. Stebbins.

Westchester Diamond Taxicab Co., Yonkers, N. Y. Capital \$500,000. Incorporators: E. Jackson, A. Solomon, I. H. Berkowitz.

NEW JERSEY.—Boonton Auto Supply Co., Boonton, N. J. To conduct an automobile, garage and supply business. Capital \$125,000.

Meeley Tire & Rubber Co., Camden, N. J. To manufacture tires, etc. Capital \$1,000,000.

Elizabeth Auto Parts Mfg. Co., Elizabeth, N. J. To manufacture automobile parts, accessories, etc. Capital \$100,000.

Automotive Devices, Inc., Newark, N. J. To manufacture automobiles, aeroplanes, parts, etc. Capital \$200,000.—Avon Public Garage, Newark, N. J. To conduct a general automobile and garage

business. Capital \$25,000. Incorporators: Claire O. Daugherty, Earl J. Daugherty.—Great Lakes Rubber Products Co., Cleveland, O. Capital \$1,000. Incorporators: Emmanuel F. Wohlworth, Sadye I. Wohlworth.

Fulton Garage Co., Toledo, O. Capital \$10,000. Incorporators: Robert Newbegin, Frederick W. Gaines.

INDIANA.—Premier Motors, Inc., Indianapolis, Ind. To manufacture mechanically propelled machines.

ILLINOIS.—Jefferson Overland Co., Chicago, Ill. To deal in automobiles, accessories, etc. Capital \$5,000. Incorporators: Samuel B. Blanksten, Helen Glickstein, Francis A. Groves.—Winona Auto & Repair Co., Chicago, Ill. To deal in automobiles and motor accessories. Capital \$5,000. Incorporators: Horace C. Nelson, Frank Dwight, Frank Schaeffer.

Ehrhart Motor Co., Quincy, Ill. To deal in motor vehicles, tractors, implements, accessories, etc. Capital \$50,000. Incorporators: G. H. Ehrhart, W. R. Hierle, A. L. Ehrhart.

Wyman Street Garage, Rockford, Ill. To deal in automobiles and accessories. Capital \$5,000. In-

TEXAS.—Patterson Motor Co., Brownsville, Tex. Capital \$50,000. Incorporators: Drew Patterson, J. A. Reuse, Alexander Marshall.

Sprague Tire & Rubber Co., Dallas, Tex. Capital \$10,000. Incorporators: E. H. Sprague, P. V. Greer, Ponder Greer.

Carlisle Motor Co., McGregor, Tex. Capital \$20,000. Incorporators: Y. C. Carlisle, M. H. Carlisle, H. B. Carlisle.

Dragon Motor Co., Sherman, Tex. Capital \$15,000. Incorporators: R. C. Walters, Gus French, G. A. Whipple.

IDAHO.—Atwood Motor Co., Boise, Ida. Capital \$50,000. Incorporators: E. O. Atwood, J. W. Keefe.

CALIFORNIA.—Nelson M. Scotchler Co., Berkeley, Cal. To deal in all kinds of motor vehicles. Capital \$100,000.

Frank B. Webster Co., Los Angeles, Cal. To manufacture automobile supplies. Capital \$20,000.

Johnson Motor Co., Inc., Pittsburg, Cal. Capital \$10,000. Incorporators: Delma and Martin Johnson.

Silva Service, Inc., Pomona, Cal. To operate a chain of automobile service stations. Capital \$500,000. Incorporators: B. C. Shepherd, Morgan P. Silva.

IN the first three months of this year, GMC sales passed all previous records—not excepting the famous prosperity of 1920.

This means two things to every motor truck dealer.

GMC dealers are making money and the public is buying GMC trucks in greater numbers.

There is an opportunity for a GMC franchise in any community that has no representative. Get your name on file.

GENERAL MOTORS TRUCK COMPANY — Pontiac, Michigan
Division of General Motors Corporation

General Motors Trucks



CALENDAR

Cleveland Automobile Manufacturers' and Dealers' Association, June 14-24.—Used Car Show, Judd Auditorium, Cleveland, O.; Herbert Buckman, manager.

National Automobile Dealers' Association, June 18.—Meeting, Los Angeles, Cal.

Society of Automotive Engineers, June 19-23.—Summer Meeting, Spring Lake, N. J.

National Automobile Dealers' Association, June 21.—Meeting, San Francisco, Cal.

National Automobile Dealers' Association, June 26.—Meeting, Portland, Ore.

American Society for Testing Materials, June 25-30.—Annual Meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, N. J.; C. L. Warwick, secretary.

Automotive Equipment Association, June 25-July 1.—Summer Meeting, Dixville Notch, N. H.

Automobile Body Builders' Association, June 26-27.—Annual Convention, Detroit, Mich.

National Automobile Dealers' Association, June 29.—Meeting, Olympia, Wash.

Washington Automobile Trades Association, July.—Midsummer Convention, Olympia, Wash.

French Grand Prix, July 2.—500-mile race, Tours, France.

Alabama Automotive Trades Association, July 23.—Semi-Annual Meeting, Mobile, Ala.

National Automobile Dealers' Association, July

23-24.—National Conference of Trade Association Secretaries and Managers, Chicago, Ill.

Pennsylvania Automotive Association, Aug. 13-14.—Annual Convention.

Green Bay Association of Commerce, Aug. 27-30.—Annual Automobile Show, Brown County Fair Grounds, Green Bay, Wis.; W. F. Kermin, managing director.

Motor Truck Industries, Sept. 1-7.—Transportation Exhibition, Chicago, Ill.; Coliseum.

Indianapolis Automobile Trade Association, Sept. 3-5.—Annual Fall Automobile and Accessory Show, Auto Building, State Fair Grounds, Indianapolis, Ind.; William Jones, manager.

Motor Dealers' Association, Sept. 3-5.—Annual Automobile Show, State Exposition Grounds, Sacramento, Cal.; H. W. Leonard, manager.

Automobile Dealers' Association, Sept. 28-30.—Annual Automobile Show, Memphis, Tenn.; Thomas H. Smart, manager.

Fresno Automobile Dealers' Association, Sept. 28-Oct. 5.—Automobile Show, District Fair, Fresno, Cal.; Ray W. Wakefield, manager.

Society of Automotive Engineers, October.—Production Meeting, Cleveland, O.

Automobile Merchants' Association, Oct. 1-6.—Annual Closed Car Show, Grand Central Palace, New York, N. Y.

American Manufacturers' Export Association, Oct. 3-5.—Annual Convention, Hotel Waldorf-Astoria, New York, N. Y.

Automobile Show, Oct. 4-10.—Grand Palais, Paris, France.

Little Rock Automobile Dealers' Association, Oct. 8-13.—Annual Automobile Show, Little Rock, Ark.; A. W. Parke, manager.

Chicago Automobile Trade Association, Oct. 13-20.—Closed Car Show, Coliseum, Chicago, Ill.

Dallas Automotive Trades Association, Oct. 13-23.—Annual Fall Show, Dallas, Tex.

Motorcycle Show, Oct. 15-20.—Olympia, London, England.

Waco Automobile Dealers' Association, Oct. 20-Nov. 5.—Annual Automobile Show, Texas Cotton Palace Exposition, Waco, Tex.; J. N. Mitchell, president.

National Association of Farm Equipment Manufacturers, Oct. 24-26.—Thirtieth Annual Convention, Hotel Statler, Cleveland, O.

Truck and Agricultural Tractor Show, Oct. 24-Nov. 2.—Grand Palais, Paris, France.

Grand Prix, Oct. 28.—Barcelona, Spain.

Washington Automotive Trades Association, Oct. 28-31.—Annual Fall Automobile Show, Washington, D. C.

Automovil Club Argentino, Nov. 1-15.—Annual Automobile Exposition, Buenos Aires, Arg.

Automobile Show, Nov. 2-10.—Olympia, London, England.

Foreign Automotive Association, Nov. 4-10.—First Importers' Show, Hotel Astor, New York, N. Y.

Nineteenth Annual Automobile Salon, Nov. 11-17.—Commodore Hotel, New York, N. Y.

Automotive Equipment Association, Nov. 12-17.—Annual Business Exhibit and Convention, Coliseum, Chicago, Ill.

AIDS TO SALES ABROAD

Surveying the markets for automotive products in foreign fields, the Department of Commerce this week points to the reports listed below. Culled from the findings of the Department representatives in many lands, the information here is passed on as particularly interesting to those of the American industry who bid for sales abroad. The following thus summarizes the situation:

Argentina—Imports of passenger cars during first quarter of year totaled 1,095, of which 1,006 were American makes. Among 89 European cars, Fiat and Renault predominated. Thirty-four trucks were imported, half of which were American. Assemblies of one low-priced American make during quarter totaled 5,000 passenger cars, 710 trucks, and 684 tractors. Medium and low-priced cars selling well. Truck market is good and price competition keen. Summer season now closed.

Austria—Automotive sales unsatisfactory. Fiat and Daimler works shut down. Wages remain unchanged.

Italy—Fiat model No. 501 reduced in price to 22,000 lire; 27,000 lire for closed model. Touring car price amounts to about \$1,100, and compares closely with lowest priced American car on market and high powered motor cycles.

Java—Trucks over 2½ tons generally prohibited; distributors and bankers face serious situation. Petition for refund of import duties in order that trucks might be re-exported refused by Government. Extreme price reductions made to dispose of stocks. Motorcycle market increasing.

Netherlands—American cars predominate at Amsterdam Automobile Exposition. Show very successful, large sales made of low and medium priced cars. American motorcycles losing favor as market demands low priced, low powered one-cylinder machine. Few American accessories shown, display being in no way representative of their popularity in market.

Portugal—Demand for passenger cars selling between \$2,500 and \$3,000, picking up after depression since last summer, which lasted until January.

Spain—Fifteen Citroen cars installed as taxicabs in Madrid, 10 more to be put in soon, number expected to increase to 250 if demand satisfactory. Fare placed at 80 centimos per kilometer and 3 pesetas per hour while standing.

United Kingdom—Higher car prices under discussion, but generally felt no advance will be made, although it is certain that prices are now at rock bottom. Improvement in industry continues. Morris Motors, Ltd., produced 385 Morris-Cowley 11.9 horsepower cars during one week—very large output for any British Company, indicating popular turn toward light models.

Chile—Motor vehicle trade participating to large extent in business revival following increased nitrate sales. Present automotive sales very satisfactory, and prospects bright. Motor bus services increasing, and flanged wheel cars being used on railways.

Cuba—Passenger car manufacturers finding it difficult to establish agencies without factory representative to supervise service and sales. Almost necessary to extend credit.

Spain—Purchase of 14 pieces of motorized fire fighting apparatus has been authorized.

United Kingdom—Production of motor cars in Great Britain in 1922 by 92 British factories estimated at 38,419.

NEWSPAPER SAY SO

(Continued from page 456, column three)

In control of the raw rubber supply may let America fill its rubber requirements at fair rates for years to come, there is always the chance that power so concentrated may be used to gouge American consumers; worse yet, to harass our Government at a moment of supreme need. In a civilization moving forward on rubber tires that risk is too great for any nation to endure if there is a possible way to avoid it. . . . Rubber means too much to our national existence for America to depend indefinitely upon a monopolized supply altogether beyond our control. The thing for the United States Government to do is to see to it that a supply of raw rubber ample for the needs of American business is produced within the zone of American influence.—NEW YORK Herald.

The season for death under the wheels of the automobile is never closed, but Summer may be called, so rapidly the tally rises, the open season for casualties. All the world and his wife take the road on Sundays, judging by the glut of traffic in the rural parts, and on Monday a prominent place is given in the newspapers to fatal automobile accidents. There they are, the dreadful list: collisions at railroad crossings, with sometimes a whole family wiped out; cars pitched over embankments at dangerous curves through reckless driving, and the oc-

cupants hurried to hospitals to save a life or set broken limbs; others piled up in wreck through disregard of the rules of the road; and the havoc played by the speed maniac among the pleasure cars piloted no matter how carefully. . . . The country over, the harvest of death is appalling. Many of the accidents were preventable by the exercise of caution. . . . In other cases the sufferers were victims of wanton speeding and insensate joy-riding. . . .

Last year more than 13,000 persons were killed in the United States by motor vehicles. In railroad accidents the dead were 5,800. . . .

"Safety First" is a formula on everybody's lips, but it is too often more honored in the breach than in the observance. What safety first really means in the case of the motorist is that he shall have the requisite training to drive a car, that he shall have his wits about him and keep cool at all times, that he shall learn what traffic regulations are and obey them, that he shall heed all the rules of the road, and that he shall never drive unless he is physically fit.—NEW YORK Times.

HOUSE ORGAN KEYNOTES

"Most of us can accomplish an awful lot when we have to," says "Vision."

In other words, the fellow that has to fight puts up a much better brand of fighting than the one that has "easy picking." The fellow that has to work for a living usually accomplishes more than the one that can afford to "take an afternoon" off now and then if he desires.

A salesman that encounters keen competition is always kept on the alert to combat that competition and outsell it. In fact, competition is the life of progressiveness. If we are just a step ahead of the other fellow, anticipating his every move, we come home with the business.

We will venture to say that the best sales results are being obtained where the competition is the keenest. More is being accomplished by the organizations that have to fight than by those that "have everything their own way."—Gray Goose.

Lack of space and system cause confusion and inefficiency; confusion and inefficiency cause errors and delays; errors and delays cause annoyance and dissatisfaction; and annoyance and dissatisfaction cause damage and failure.—Service Bulletin.



Growth

The one indisputable measure of the worth of a tire is the endorsement of the man who uses it.

The sole evidence of the user's endorsement is his inclination to repurchase the same brand.

The number of AJAX TIRES purchased each month greatly exceeds that of the previous month.

AJAX RUBBER COMPANY, Inc.

New York City

*Branch Offices and Distributing Points
in Leading Cities*

The utmost economy for
consumers and the fullest
measure of profit for you

AJAX TIRES

PUBLISHER'S OBSERVATIONS

GETTING ACQUAINTED

IT was recently mentioned in these pages that one of the industry's most prominent figures had relieved himself of the opinion that "the automobile dealer is the greatest obstacle to progress the industry has to overcome." Only this week another outstanding figure remarked, "the great trouble with the dealers is that they don't know how to get acquainted."

This may be rubbing it in. Or, on the other hand, it may be pointing the way to salvation. If, by any chance, both of these critics should be right **AUTOMOBILE TOPICS** will be performing a useful service in spreading their thoughts upon the record.

¶ "A man benefits and broadens by his friendships," said the second of the two authorities mentioned. "The more friendships a man has, and the more diversified they are, the better man he is. In the same way, the more a man confines himself to his own interests, the fewer friends he has, outside his business, as well as in it, the narrower and more short-sighted he is apt to be."

"Now you take some of these little dealers in small towns. Who knows them? Who do they know?"

"If you want to find them, they are cooped up somewhere in the back shop, down in overalls, monkeying with an old car of some kind. Is that any way for an automobile dealer to be?"

"What every automobile dealer ought to do is get out and get acquainted. Know everybody in his town. He ought to do more than that. He ought to get out and get acquainted with other towns and see how they do things, what they think about, what they eat, what they wear, what they want that they haven't got."

¶ This man's criticism went even deeper than that. And what he said was said in no way of complaint, but rather as expressing one of the real needs of the industry—the need for more progressive people on the sales frontiers.

"Here's a certain dealer in a certain town who has had the Blank for years," he went on to say. "He is a good, honest, substantial kind of a man—nothing wrong with him, you understand, got a big place, sells a whole lot of accessories, and all that. But when you come right down to it I don't know why he's a Blank dealer, and neither does he. Somebody must have handed it to him quite a few years back, when he was in a kind of a 'Yes' mood, and it has never occurred to him to change. Consequence is he is recognized all around there as the Blank man. But what he ever does to sell cars, I can't find out. As a matter of fact, I expect if it wasn't for his other departments he wouldn't make enough

to keep alive. Trouble with that man is he's not progressive. He isn't acquainted even with the possibilities of his own business."

¶ But this was a more surprising indictment still. It was the tacit admission that the backwardness of many of the smaller dealers arises in part from the way they have been handled by the factories.

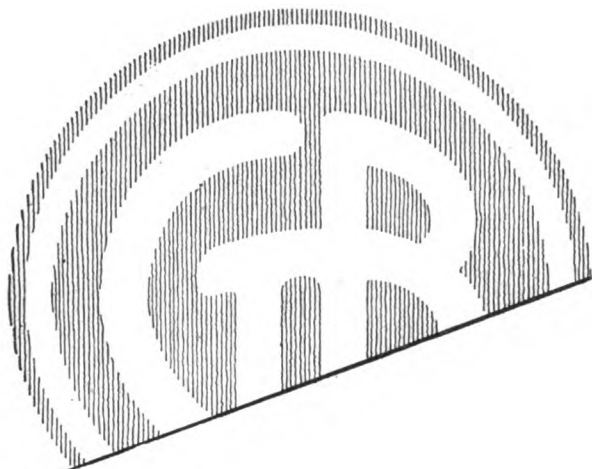
"Do you know," he continued, "a lot of men traveling from the factories don't even know how to get into a town? What do they do? They get off the train and go straight to their own local dealer. They sit down and have a nice long talk with him, ask him a lot of questions, tell a few stories, maybe eat a meal, and then go back to the hotel and write out a long report telling just what the dealer said."

"The way I'd break into a town, I'd go see every other dealer in the place before I saw the one handling my own line; maybe before he even knew I was around. I'd ask them all the questions in the book—about their own business, and about the business of my dealer. I'd go see the banker, some of the other leading people in the place, ask 'em what they thought of this man, what they thought of our line. Finally, I'd go see this fellow and see what he had to say. But first I'd have him pretty well checked up, so as to know whether he knew what he was talking about."

¶ "Trouble with a lot of towns is they're full of prejudice. The people have nothing to do, evenings and Sundays, but sit around and talk about each other. Consequence is if anybody has had bad luck with a car, everybody else in that town is off it for life."

"Small town dealers are altogether too apt to fall right in line with local prejudice. Because they fail to get acquainted outside their own towns, they don't know what is going on in the world, nor how the world regards those things against which they are biased. And because they do not rise above the level, it is hard for them to bring others around to their way of thinking. In other words, they don't know how to sell."

¶ "What's wanted is for the automobile dealers of this Country to get around and get acquainted—inside and out. They must learn how cars are sold in the larger places, why people buy them, and they must learn how to put themselves forward among their own people. This goes for knowing the banker, for having influential friends, for maintaining a clean and attractive store, for playing a prominent part in local affairs, and finally, but most important of all, for knowing how to get at the right kind of people and making them want to buy the kind of cars the dealer sells."



Once Chosen, Always Used

Give this truck a reasonable opportunity to prove its merit, and the future equipment question is usually settled for all time.

All over the world, in 264 different lines of business, you will hear owners make this statement with a degree of finality that leaves no room for doubt or argument.

1 Ton Chassis, \$1265; 1½ Ton, \$1325; f. o. b. Detroit or Evansville, Ind.

G R A H A M B R O T H E R S
D e t r o i t — E v a n s v i l l e



One of a fleet of 125 Graham Brothers Trucks in the service of the Ward Baking Co., New York


GRAHAM BROTHERS TRUCKS

SOLD BY DODGE BROTHERS DEALERS EVERYWHERE

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Digitized by Google

Sell a "6"~



and "Known Mileage!"

Sell a car you can make money selling! Sell a "six" that enjoys wide popularity because of its great dollar-for-dollar value! A "six" that costs less than many "fours"! Sell a moderate priced car appealing to a tremendous market—yet a quality-built car that will build a permanent business and lasting good will! A car that carries an exclusive, written, 15,000 mile engine guarantee! Sell a car that you can deliver to the owner with a definite assurance of "known mileage"! Sell a car built and backed by a responsible organization—a permanent division of General Motors! Get the benefit of Oakland's liberal financing helps in selling cars.

Oakland Motor Car Company, Pontiac, Michigan

Division of General Motors Corporation

Oakland "6"

BADGER

Passenger Car - Commercial Car

TIRES

Leading Jobbers of the country attest the splendid quality and stability of the Badger line.

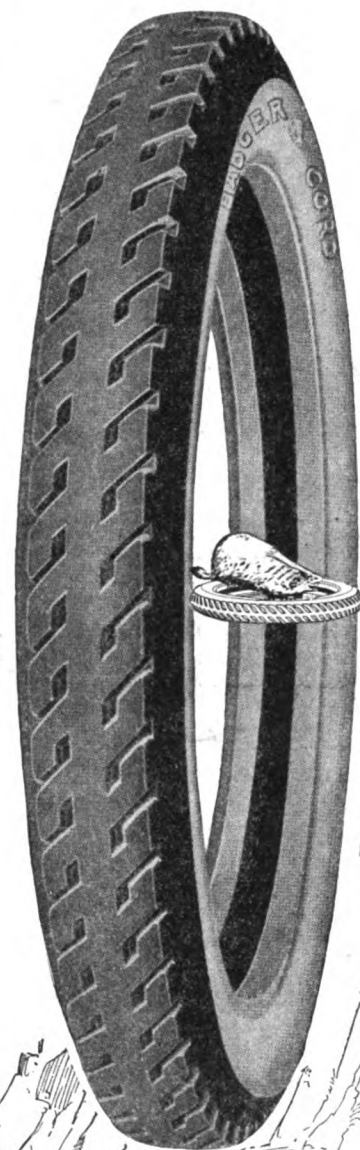
And through them, responsible Dealers find in Badger a more satisfactory, profitable and permanent tire proposition than ever before.

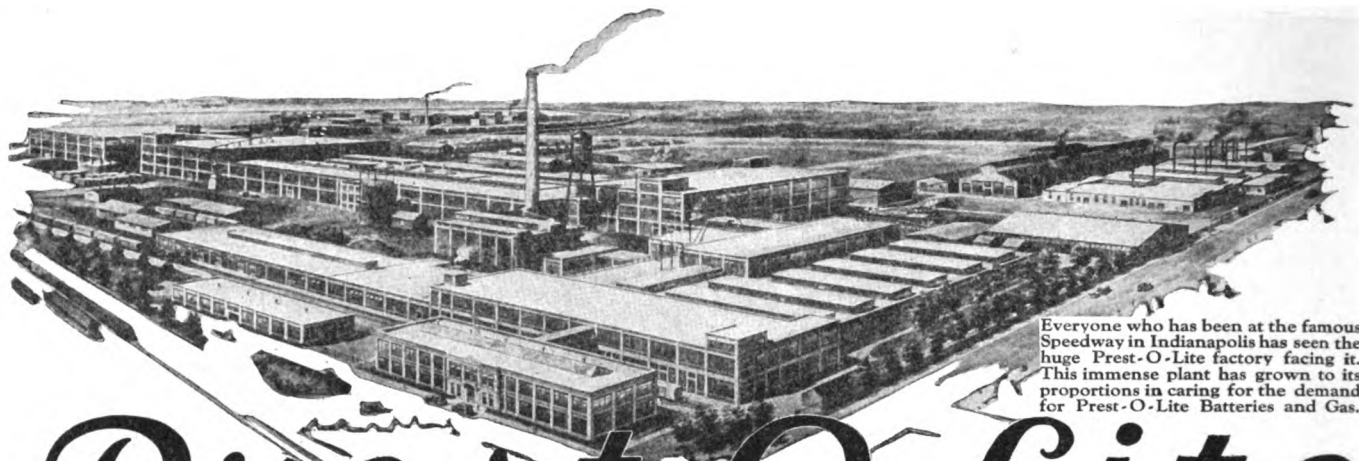
For whatever the service—whether Passenger or Heavy Duty Car, Speed Wagon or Bus—Badger tires unfailingly prove satisfactory. And User's confidence is reflected in steadily increasing sales.

Our proposition to accredited Jobbers is most attractive, and to such we shall be pleased to give full details on request.

THE BADGER RUBBER WORKS

Milwaukee, Wisconsin





Everyone who has been at the famous Speedway in Indianapolis has seen the huge Prest-O-Lite factory facing it. This immense plant has grown to its proportions in caring for the demand for Prest-O-Lite Batteries and Gas.

Prest-O-Lite

THE OLDEST SERVICE TO MOTORISTS

A growth from a beginning to millions of batteries

The success of Prest-O-Lite is made all the more impressive by the fact that it has established its position by sheer merit, against batteries that were already in the field when it was introduced.

In 1916, for instance, six automobile manufacturers in America adopted the Prest-O-Lite as equipment. In 1917 the number had grown to 19; in 1918 it was 29; in 1919 it was 40; in 1920, 49; in 1921, 58, in 1922 it was 77—and thus far in 1923, 85 of the leading cars are equipped with Prest-O-Lite when they are built.

In addition, thousands of motorists, knowing what the name of Prest-O-Lite means, have purchased Prest-O-Lite batteries for their cars as replacements, thus bringing the number that have been sold away up into the millions.

The backbone of a Prest-O-Lite Battery is Prest-O-Plates—the plates that are the long sought combination of the necessary hardness with ample porosity. They supply pep, power and unusual reserve strength. All other parts are on a par with them; that is why Prest-O-Lite is the best all-around, all-weather battery.

Be a more prosperous dealer

Battery stations, service garages, automobile dealers and others who are live merchandisers and interested in having a prosperous, permanent business, are invited to write us for our distributor proposition and plan.



THE PREST-O-LITE COMPANY, Inc.
INDIANAPOLIS, IND.

New York Office: 30 East 42nd Street
Pacific Coast Office: 599 Eighth Street, San Francisco
In Canada: Prest-O-Lite Company of Canada, Ltd., Toronto

Duesenberg Is The Ideal Car To Complete a Dealer's Line

There is no other car quite like the Duesenberg. No other car lays claim to the points of distinction that are so characteristically Duesenberg.

Fast enough for the reddest-blooded man—luxurious enough for the most fastidious woman—and combining with these qualities practically the same mechanical features found in the now famous Duesenberg race cars—that's the present Duesenberg which dealers declare is the ideal car for rounding out their lines.

In large cities and, surprising though it may seem, in smaller ones Duesenbergs are being sold where no other car can so completely fill the diversified requirements of critical purchasers.

Recently quite a few dealers have given this as one of their main reasons for taking on the Duesenberg. It's worth thinking about.

DUESENBERG AUTOMOBILE & MOTORS Co., INC.
INDIANAPOLIS, U. S. A.

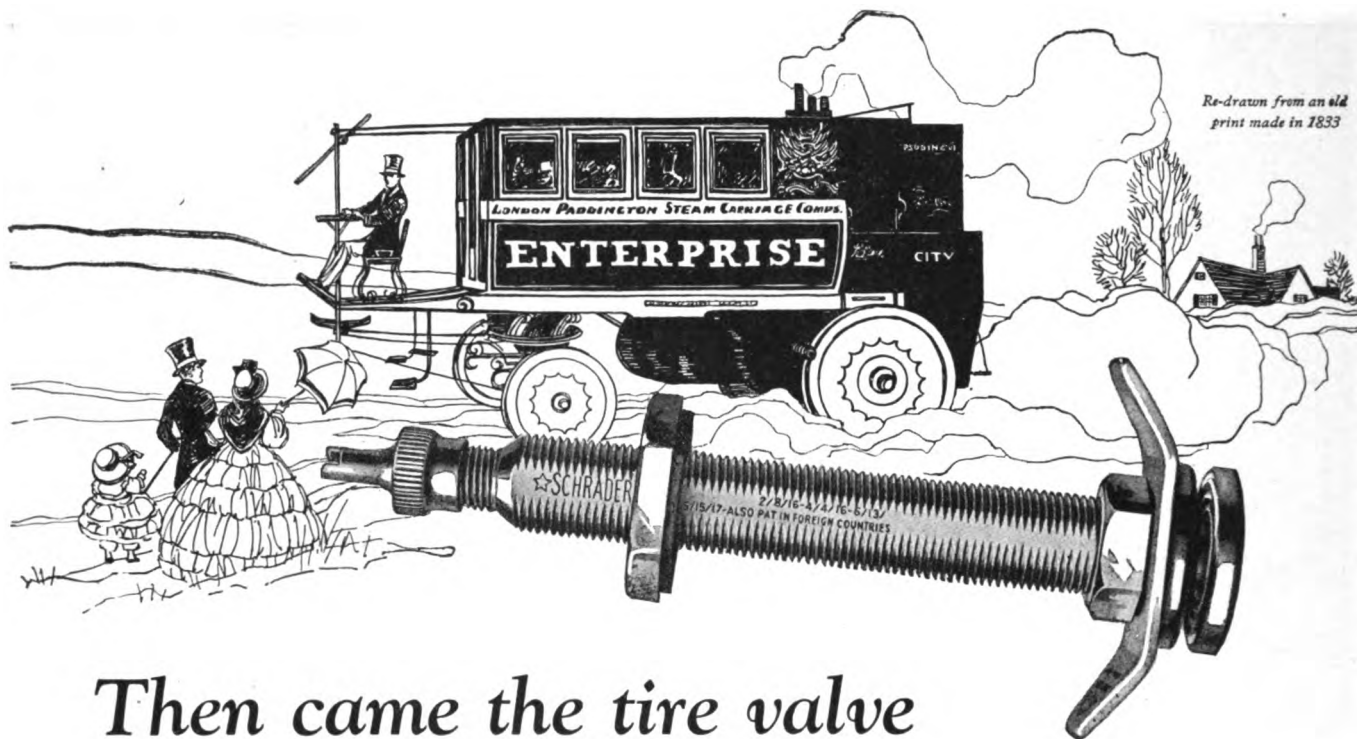
"Straight-Eights and Four Wheel Brakes Are Coming"

They are already here for Duesenberg dealers. The original Straight-Eight introduced more than two years ago won the coveted Grand Prix in 1921, and has been proved commercially right by increasing demand.

Of course other straight-eights and four wheel brakes are coming. Proved successes always win followers. These two Duesenberg features of proved design are better merchandise than ever. Everyone recognizes the endorsement of imitation and followers.

DUESENBERG

*The Original Straight-Eight
With Four Wheel HYDRAULIC Brakes*



Then came the tire valve

THE thundering, fire-spitting steam automobile with its heavy iron wheels did not live long. Its passengers could not travel with speed or comfort. It soon destroyed the best roads with deep ruts.

Even the real development of the gasoline-driven automobile into the car of today awaited the appearance of the pneumatic tire with its tire valve. And at that point the story of Schrader Universal Tire Valves began.

On the first pneumatic tires

Schrader Tire Valves have served to retain the air in pneumatic tires since the first of these tires was made in this country. Their improvement in design and construction kept pace with the improvement in tires and motor cars. Unceasing efforts of skilled engineers met the increasing demands for a tire valve that would give long

and efficient service. Today Schrader Tire Valves have a reputation that is world-wide.

Schrader Valves hold air

Every possible care taken in manufacture insures the production of a reliable product. Severe factory tests are made before shipment so that tire manufacturers can rely on getting Schrader Tire Valves that are air-tight—valves that perform their duty unflinchingly. That is why practically every tire-maker in the United States and Canada makes them standard equipment for bicycle, motorcycle, and automobile tires.

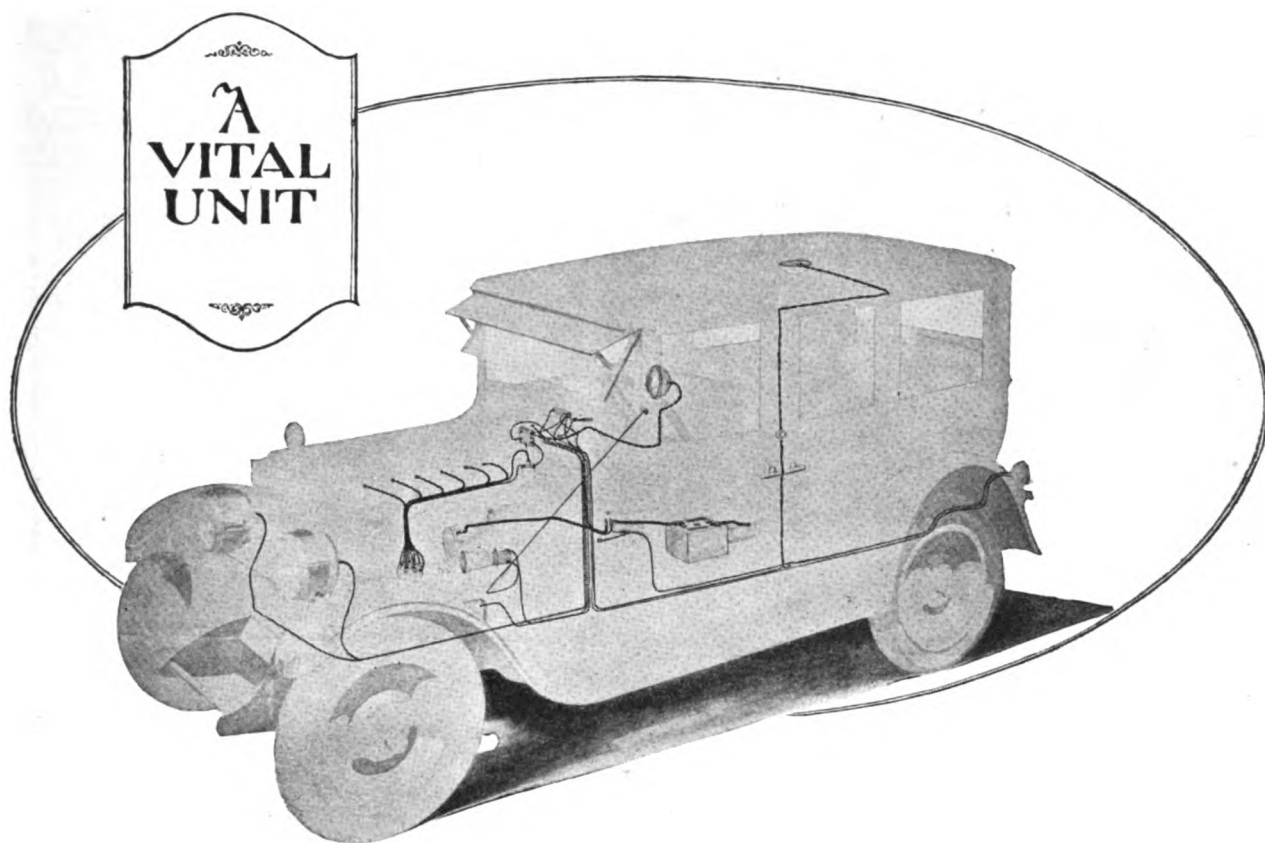
Use Schrader Valves and Valve Parts on all pneumatic tires. Be sure that you have enough Schrader Valve Insides, Valve Caps, Bridge Washers, Hexagon Nuts, Rim Nuts, Dust Caps and Bushings on hand. Manufacturers and supply houses can always get prompt shipment from our large stocks.

A. SCHRADER'S SON, Inc., Brooklyn, New York
Chicago Toronto London

Manufacturers of Schrader Valve Insides, Valve Caps, and Tire Pressure Gauges

SCHRADER

TIRE VALVES



The Life Streams of the Motor Car

Assure uninterrupted performance of the cable system of your car and you take the most important step in reducing servicing costs.

When the life streams are clogged or severed by heat or vibration, some vital part ceases to function, and the reputation of your car suffers.

Packard Cable is built to help safeguard the reputation of those magnificent cars of which it becomes a part.

As a part of the specifications, Packard Cable implies quality throughout all unseen parts.

The Packard Electric Company
WARREN, OHIO



Travel the Ladder With Your Prospects

The price the average motor car buyer pays for a car is governed by his earning power. Keep pace with him as he mounts the ladder of income. If he's only a few rungs up, sell him an Elcar Four at \$995. And keep on selling him Elcars as he goes on up—you can do it because the Elcar line has a wide price range and only one quality—the best.

When you sell a man an Elcar Four with five bearing Lycoming motor you make a profit and a friend, and you'll lose neither when you sell him an Elcar Six with 8-R Continental Red Seal Motor. Start on your way to bigger profits today—write or wire for the Elcar dealer's proposition.

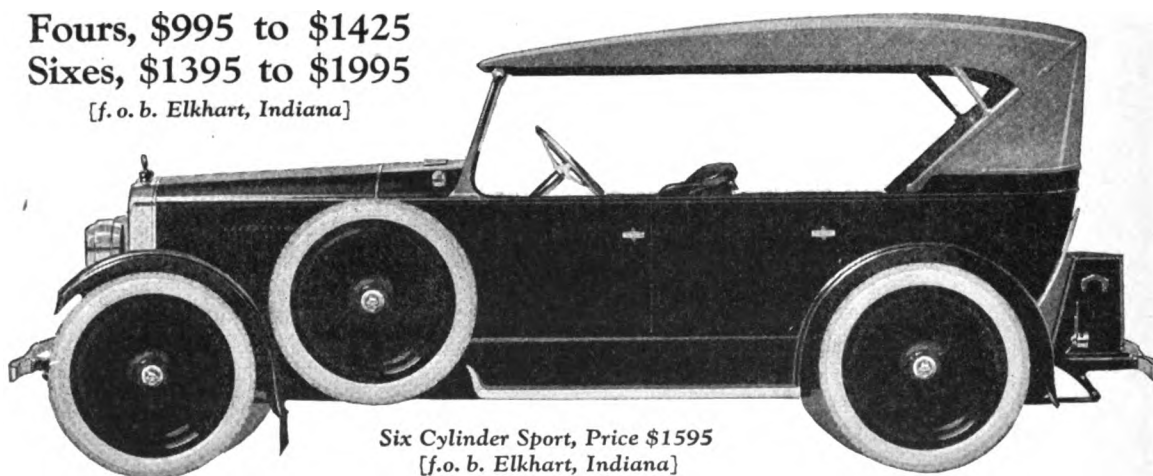
ELCAR MOTOR COMPANY, Elkhart, Indiana

Builders of Fine Vehicles Since 1873

Fours, \$995 to \$1425

Sixes, \$1395 to \$1995

[f. o. b. Elkhart, Indiana]



Six Cylinder Sport, Price \$1595
[f. o. b. Elkhart, Indiana]

ELCAR

A WELL BUILT CAR

The Right Weapon

at the Right Time!

Every year the advertising field finds some new and dominant advertiser, with vision and the will to win, emerging from the crowd to take and hold the lead in the line.

How does he do it? His market appears crowded and the opposing products are solidly entrenched.

His vision recognizes the symptoms of inertia among old established competitors and he strikes with the right weapon at the right time.

In reviewing the past few years, it has inevitably developed that those advertisers who suddenly stepped out from the crowd accomplished this soon after they adopted Poster Advertising as a national selling force.

These startling increases in Sales Volume and Profits were undoubtedly due to the fact that Poster advertising reaches, with telling effect, the great masses—the 85% that are not reached effectively by any other medium.

Outdoor Advertising Everywhere

POSTER ADVERTISING CO., INC.
550 WEST 57TH STREET, NEW YORK

BRANCH OFFICES:

CHICAGO
PROVIDENCE
CLEVELAND

AKRON
CINCINNATI
RICHMOND

ST. LOUIS
ATLANTA
PITTSBURGH
LONDON, ENGLAND

WILMINGTON
PHILADELPHIA
MILWAUKEE

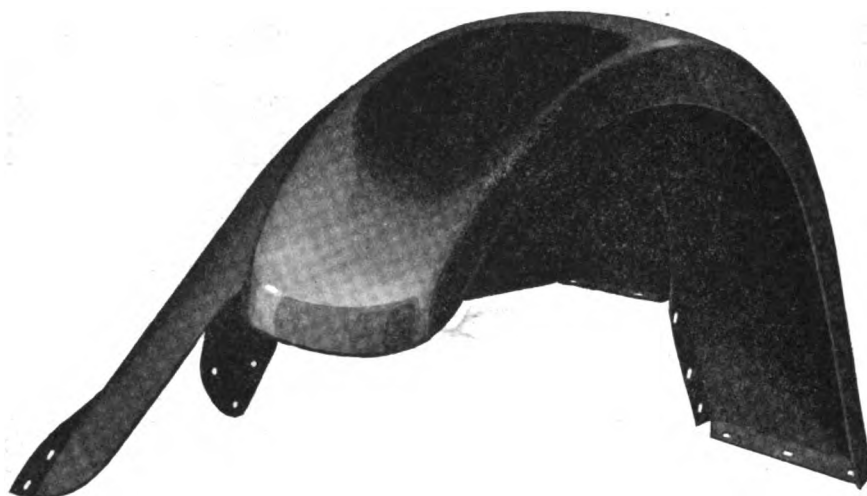
You See

*Every
Day*



*Every-
where*

Sheet Metal Products

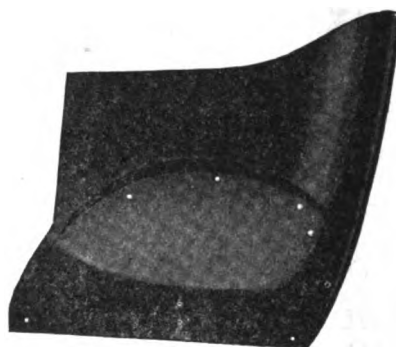


AUTOMOBILE BODY STAMPINGS

THE roster of Hayes Manufacturing Company customers reads like a Blue Book of the whole Automotive Industry.

To serve the leaders in this Industry calls for high grade production only—for the better automobile makers are tolerant of everything except laxity.

It can serve your organization—in the rapid and accurate production of Body Stampings, Fenders, Hoods and other Standard or Special Sheet Metal Parts. Send your blue prints—estimates furnished quickly.



Hayes Manufacturing Company

DETROIT, MICH.



U. S. Traxion Tread Cord
White Sides, Black Tread,
Cord Fabric Construction.



U. S. No. 77 Giant Chain
White Sides, Black Tread, 3 Plies,
Bicycle Fabric all around.



Nonpareil Thornproof
White Sides, Red Tread, 2
Plies Bicycle Fabric, 1 Strip
Thornproof, Large Studded
Tread.



Heavy Service Traction Tread
All White Rubber—2 Plies,
Motorcycle Fabric.

DO you realize that this is a big year in the Bicycle Industry and that there are thousands of new users for United States Bicycle Tires?

The new 1923 Line gives a dealer the most up-to-date line of Bicycle tires on the market. A tire for every possible bicycling requirement under a trade mark that is established with the public as a sign of quality.



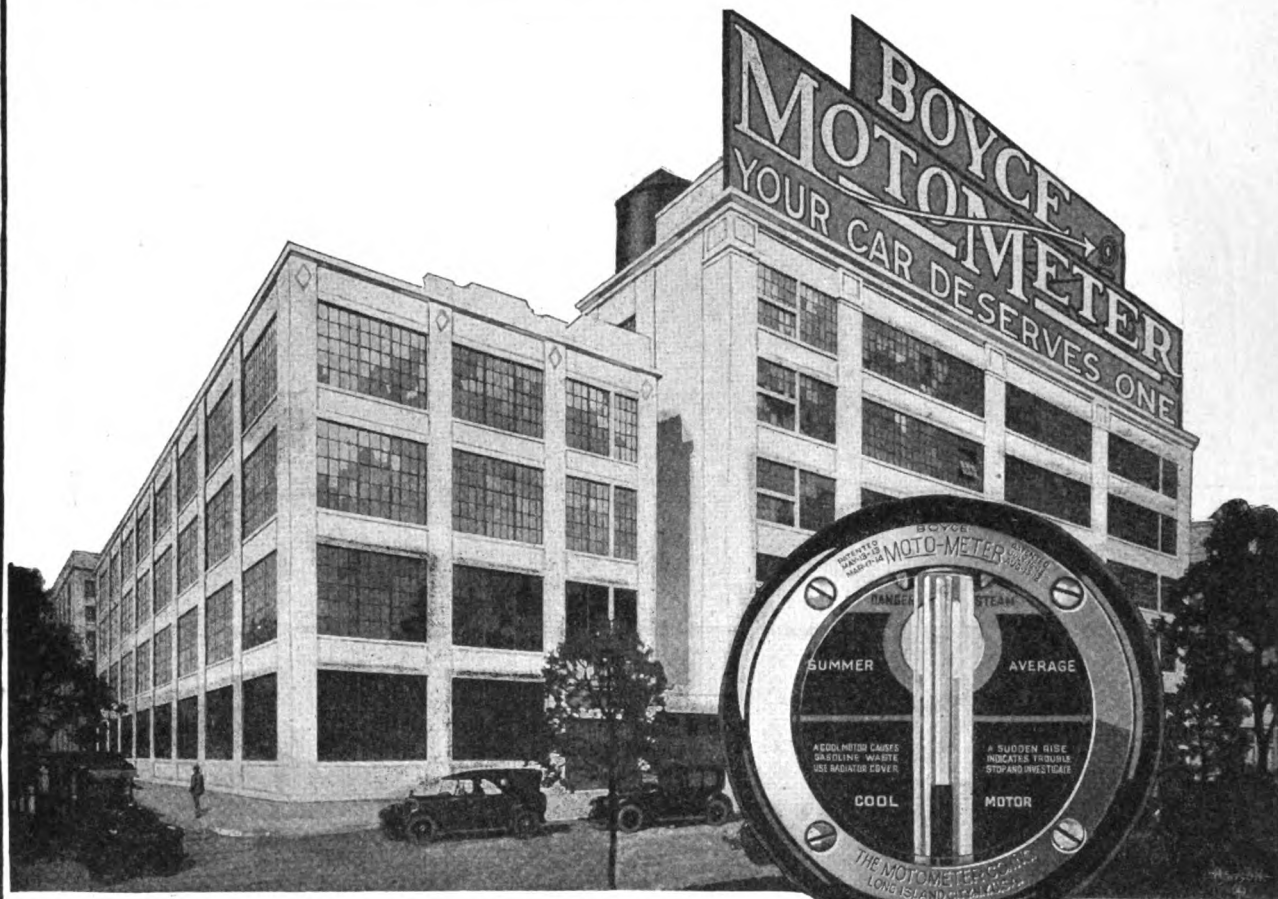
U. S. Juvenile
White Sides, Red Tread, 2
Plies Bicycle Fabric, Large
Studded Tread.

United States Bicycle Tires are Good Tires

United States Rubber Company, New York

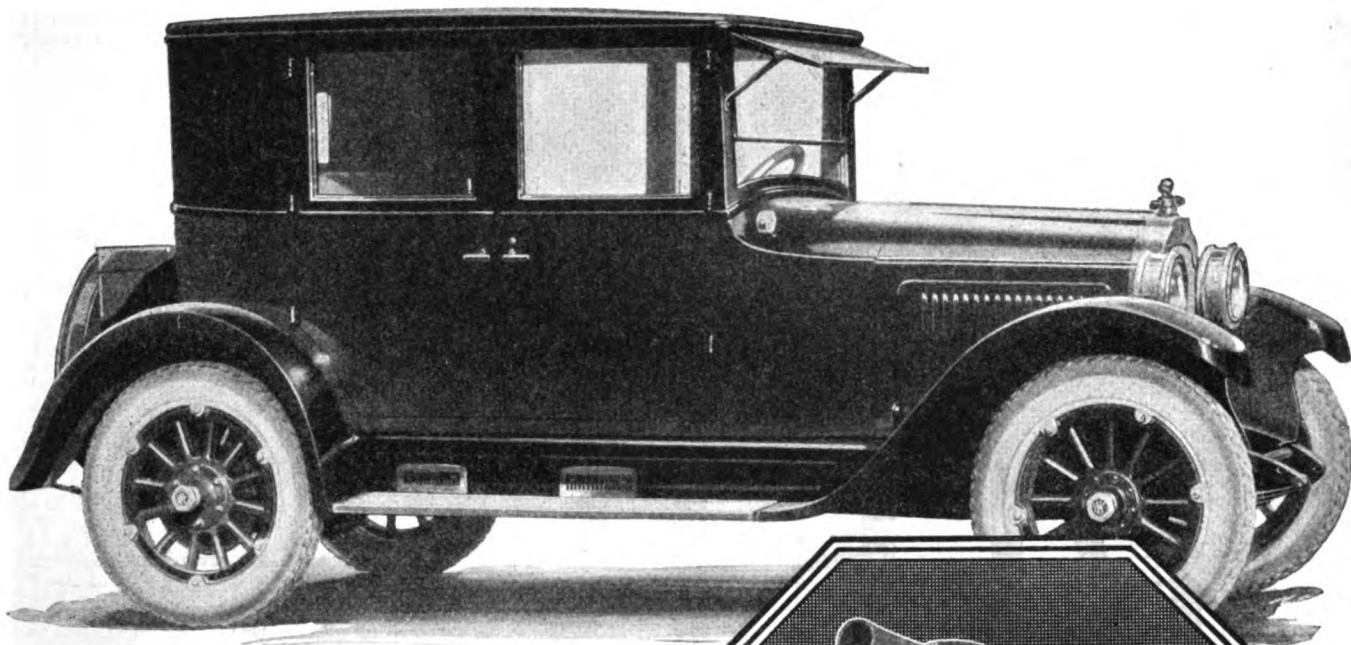


Trade Mark



*Main factory of Moto-Meter Company,
Long Island City, New York*

**12,000
BOYCE
MOTO METERS
PER DAY**



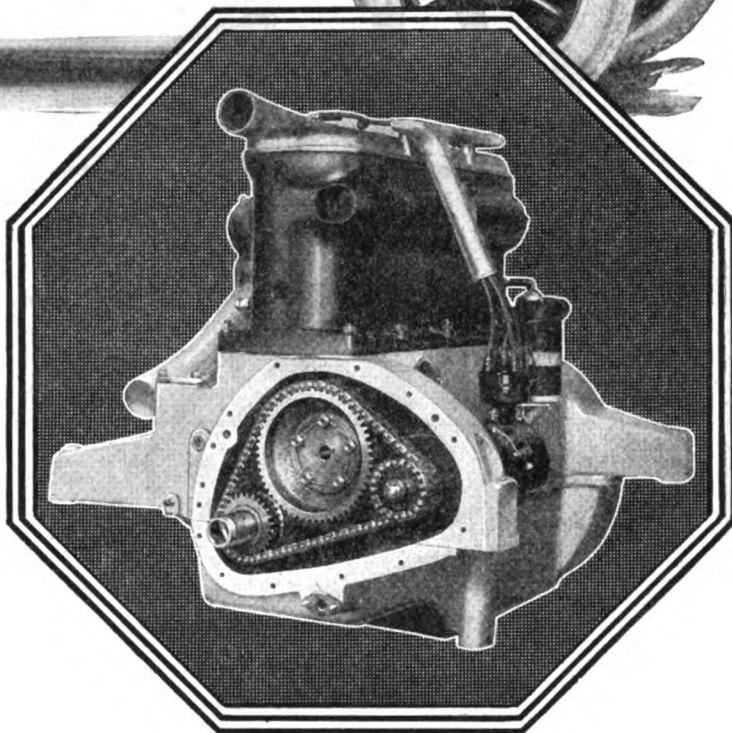
50,000 Miles and More without a Single Engine Adjustment

This statement recently made in the advertisements of the Willys-Overland, Inc. of Toledo, Ohio is really a recommendation for Link-Belt Silent Chain "Front-End" Drives.

The success of the Willys-Knight sleeve valve engine—its quiet running performance—is well known throughout the industry, and by car owners the country over.

Link-Belt Silent Chain "Front End" Drive (illustrated) has been standard equipment on the Willys-Knight for many years.

Full particulars about Link-Belt Silent Chain Front End Drives can be had by addressing Link-Belt Company.



USED ON THE FOLLOWING:

CARS			ENGINES	
Paige 6-70	Crane-Simplex	Haynes 75	Weidely	Ansted
Auburn Six-	Willys-Knight	Revere	Beaver	Midwest
Supreme	King 8	Meteor 4	Rochester-Duesenberg	
H.C.S. Series IV,	Roamer	Richelieu	Wisconsin, Type Y	
Model 6	Stutz Six	Frontenac	Kermath Marine	
Brewster-Knight	Mercer 4	Holmes	Engine	

LINK-BELT COMPANY, INDIANAPOLIS

1256

LINK-BELT

SILENT CHAIN FRONT END DRIVES



PIERCE ARROW

Four Passenger, Four Door Sedan

A closed car especially suitable for the small family. Serves all purposes the year 'round.

A car that because of its beauty, luxury and ease of control appeals especially to the woman driver.

It is unusually graceful of line—trim looking—compact. Yet the open door discloses generous accommodations for four passengers.

Lowered windows provide the airiness of a shady summer porch on hot days. Yet complete protection is instantly available in case of rain or on cool days and evenings.

➤PIERCE-ARROW➤

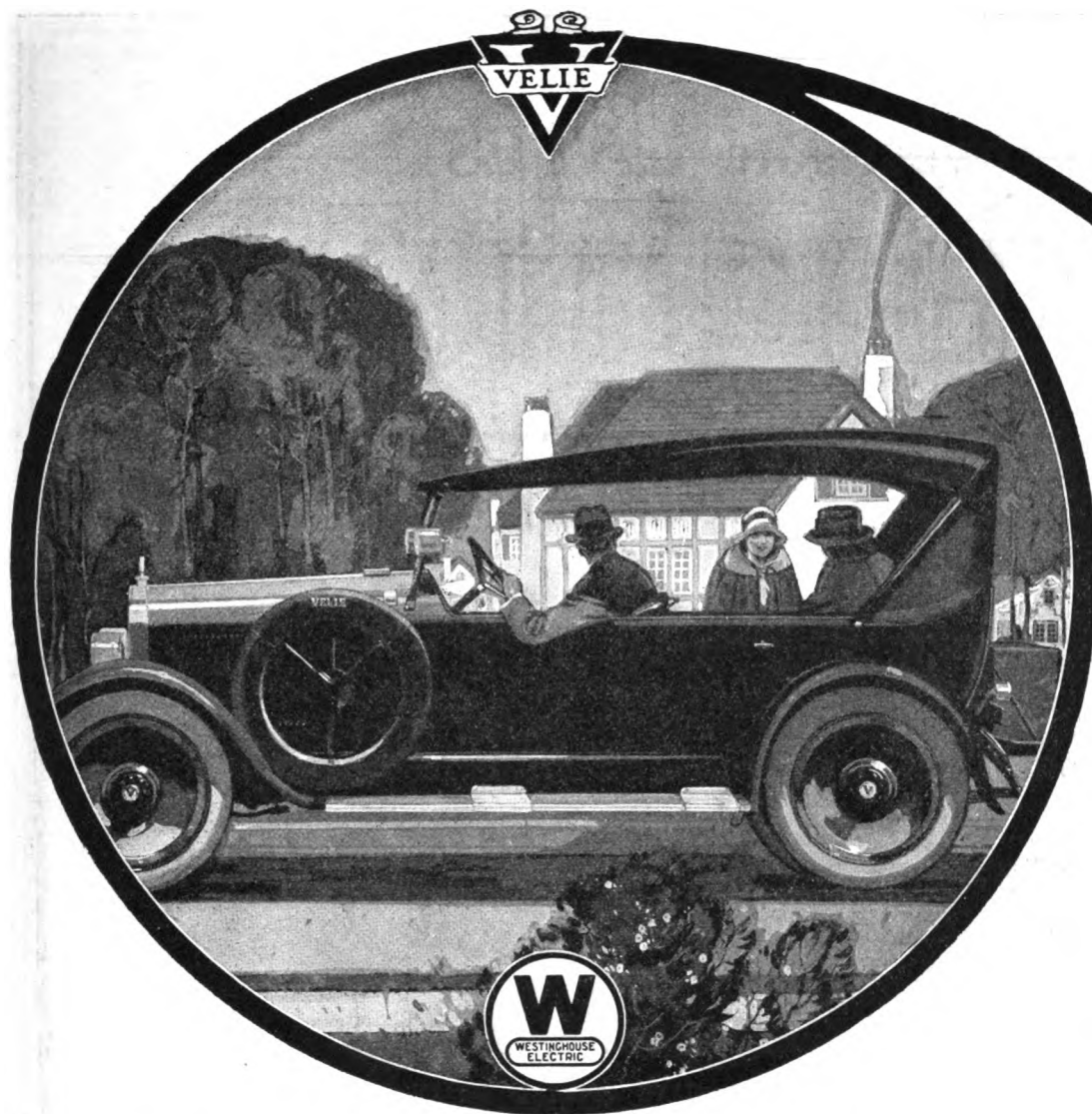
Potential Pierce-Arrow owners, as a class, are fine men to deal with. Have you considered the profit-possibilities of the Pierce-Arrow Dealership in your locality?

Open Cars \$5250

Closed Cars \$7000

At Buffalo—Government Tax Additional

THE PIERCE-ARROW MOTOR CAR COMPANY
Buffalo, New York



THERE is a marked distinction and individuality about the Velie 58 Sport model that always compels admiration.

A model built, painted and equipped for those who prefer other than the conventional type of touring car, but retain in full measure its comfort, room and service and some additional conveniences.

It is in *Velie Service* that Westinghouse is primarily concerned. For the Velie is

equipped with Westinghouse Starting and Lighting equipment, selected, as they state, on account of its *quality* and *performance*.

Westinghouse equipment, the choice of a large number of car and truck builders, is backed by an organization of more than three hundred and fifty service stations, strategically located for owners and manufacturers alike.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
Automotive Equipment Department - Sales and Service Headquarters : 82 Worthington Street, Springfield, Mass.

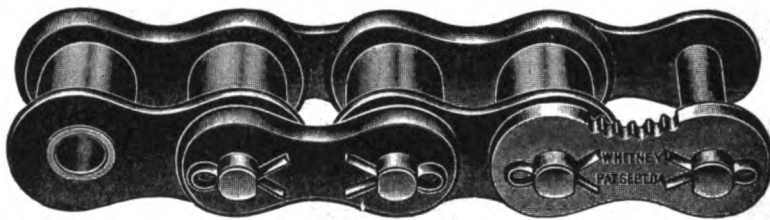
Westinghouse



Investigate LATEST
“WHITNEY”

HIGH EFFICIENCY
ROLLER AND SILENT TYPE
CHAINS

also Low Cost per Thousand Miles of Service



LATEST ROLLER CHAINS HAVE SPECIAL QUALITY
SOLID ROLLS AND OTHER IMPORTANT IMPROVEMENTS

Front End Motor Chain Drives



EXCEPTIONAL MILEAGE
AND NEVER KNOWN
TO SKIP THE
SPROCKET TEETH

THE WHITNEY MFG. COMPANY
HARTFORD, CONNECTICUT, U. S. A.

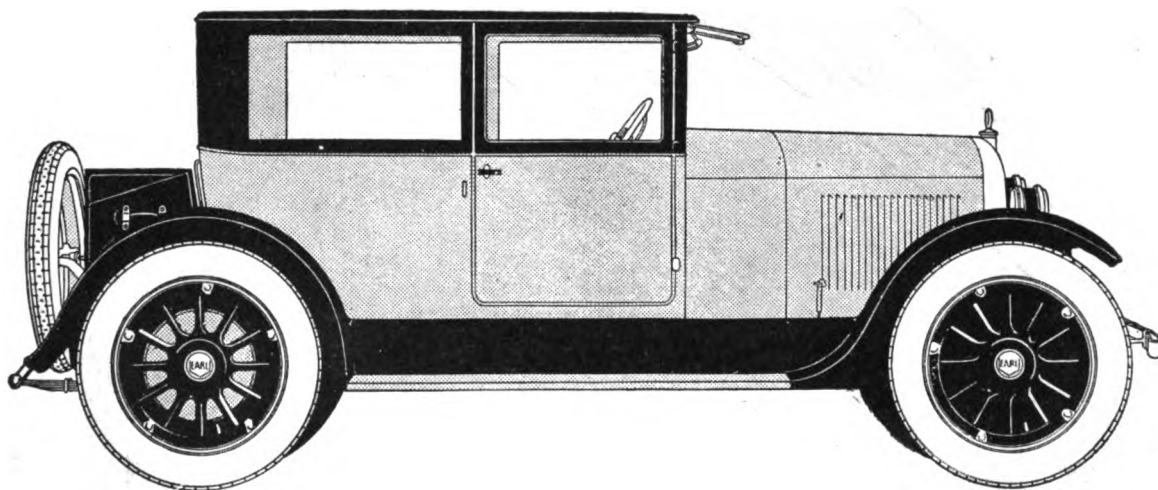
The EARL Cabriole Wins Two Great Markets

SUCCESSFUL business men who value the prestige of driving a quietly distinctive, quality car that makes possible all-weather comfort and neatness of personal appearance, are choosing the Earl Cabriole. Women who appreciate a closed car of style and comfort, who prefer to do their own driving, have shown marked preference for the Earl Cabriole.

Smartness of line, upholstery and equipment—motor, wheel, brakes and clutch that respond to a touch—velvet riding comfort in long springs, deep upholstery and large cord tires—complete equipment even to trunk, suitcases and hatbox—powerful, certain performance under all weather conditions with a minimum of attention—these are some of the reasons why the Earl Cabriole has won such preference with men and women who know.

*The
distinctive*
EARL

Touring Car	- - -	\$1095
Cabriole	- - -	1395
Sedan	- - -	1595
Sport Phaeton	- -	1275



The Earl Cabriole has made the Earl franchise more than ever profitable this season—by winning successful men and women. Write for the facts.

EARL MOTORS MFG. CO.
JACKSON, MICHIGAN

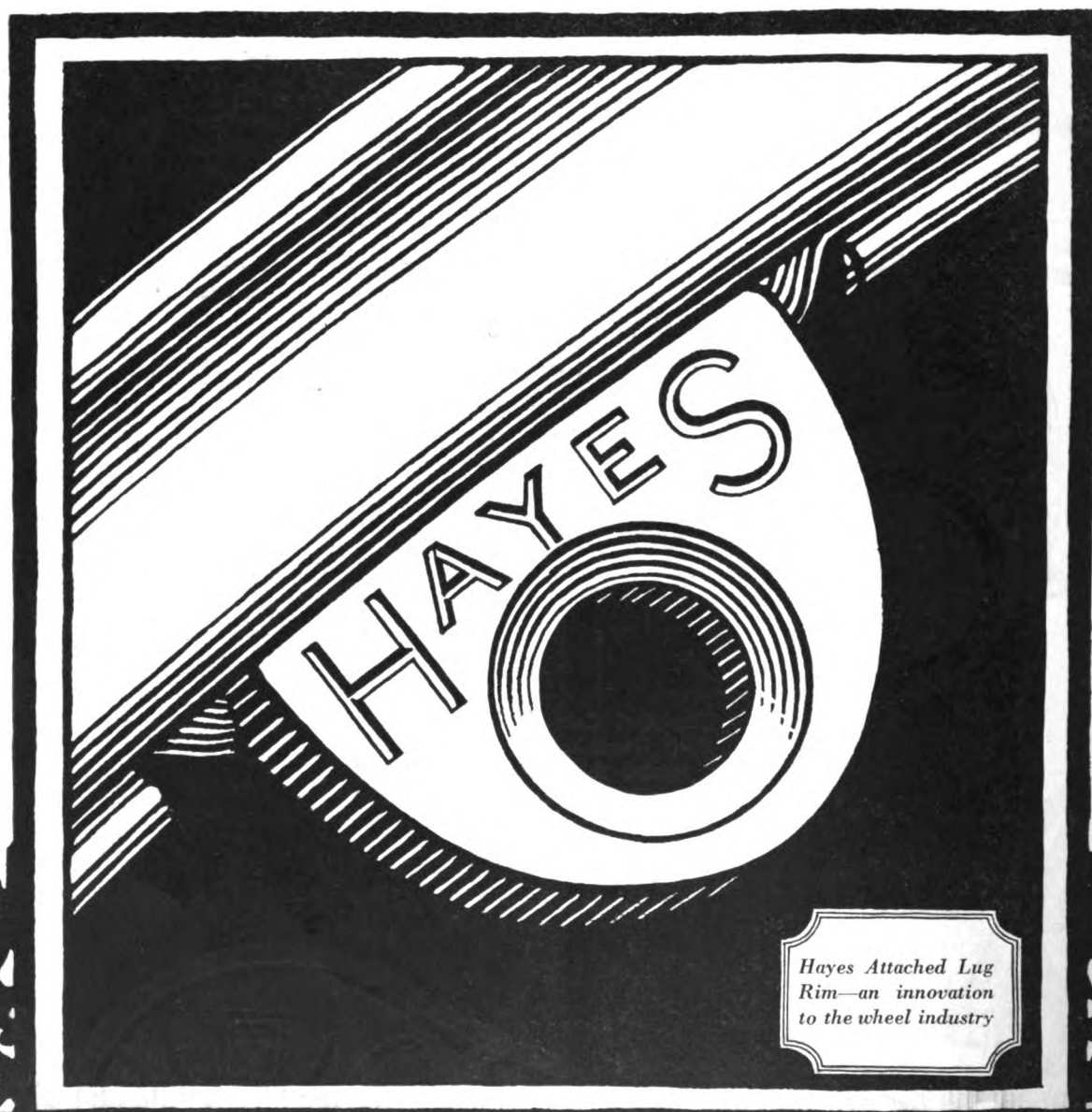
HAYES WHEELS

Standardized in Wood, Wire and Disc—All Demountable-at-the-Rim

THE fact alone that Hayes Wheel Company has manufactured more than 30,000,000 automotive wheels is sufficiently striking to compel the attention of the entire motor world.

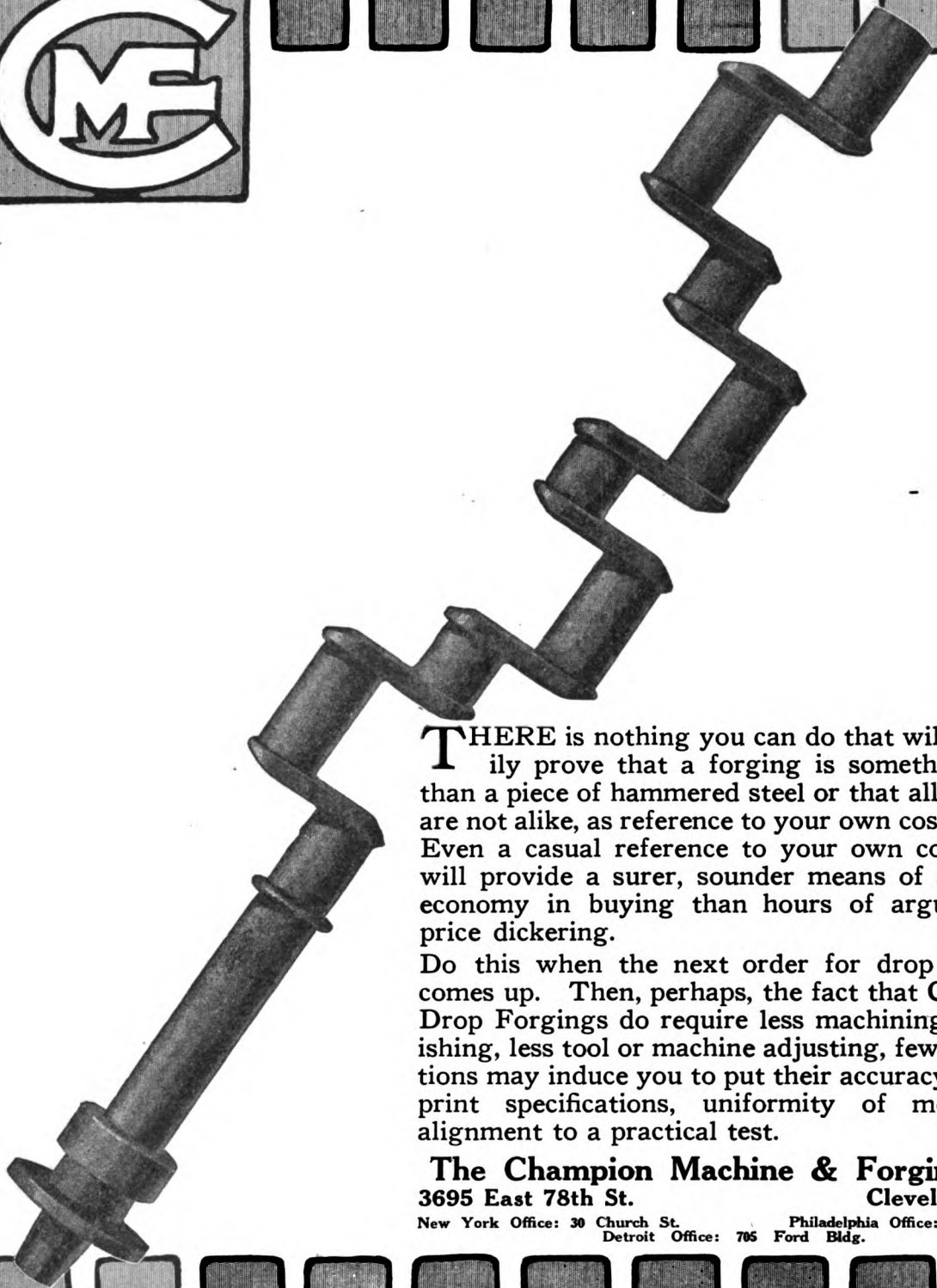
HAYES WHEEL COMPANY, *Manufacturers*, JACKSON, MICHIGAN

Canadian Plant—Hayes Wheel Company Ltd., of Canada. Factories at Chatham and Merriton, Ont.



*Hayes Attached Lug
Rim—an innovation
to the wheel industry*

CHAMPION



THERE is nothing you can do that will so readily prove that a forging is something more than a piece of hammered steel or that all forgings are not alike, as reference to your own cost records. Even a casual reference to your own cost sheets will provide a surer, sounder means of achieving economy in buying than hours of argument or price dickering.

Do this when the next order for drop forgings comes up. Then, perhaps, the fact that Champion Drop Forgings do require less machining and finishing, less tool or machine adjusting, fewer operations may induce you to put their accuracy to blueprint specifications, uniformity of metal and alignment to a practical test.

The Champion Machine & Forging Co.
3695 East 78th St. Cleveland, Ohio

New York Office: 30 Church St.

Philadelphia Office: Bourse Bldg.
Detroit Office: 705 Ford Bldg.

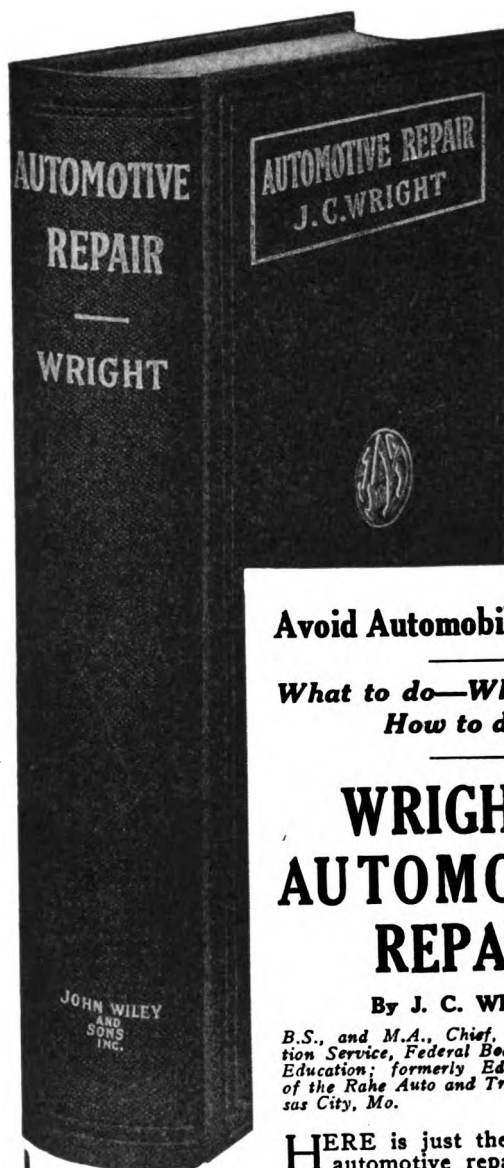
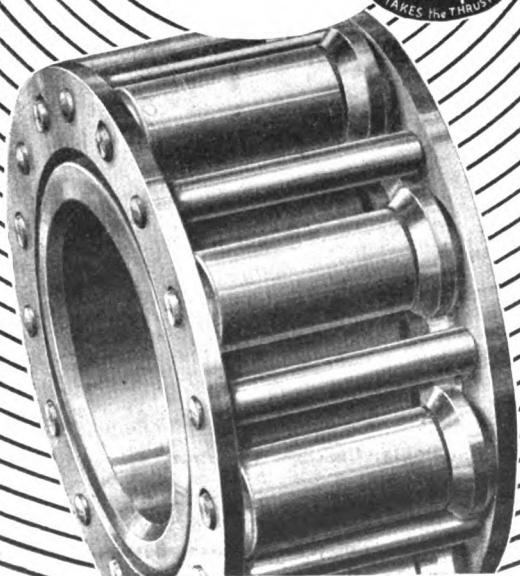
DROP FORGINGS

BOWER

ROLLER BEARING CO.
Detroit - Michigan

The little slogan, "Carries the load—takes the thrust," in a very simple way explains one of the secrets of the great staying qualities of the Bower Roller Bearing.

We would like to explain further the many other superior points of this well known bearing, which continue to interest so many of the well known automobile manufacturers. May we?



Avoid Automobile Troubles

*What to do—When to do it
How to do it*

WRIGHT'S AUTOMOTIVE REPAIR

By J. C. WRIGHT

B.S., and M.A., Chief, Industrial Education Service, Federal Board for Vocational Education; formerly Educational Director of the Rahe Auto and Tractor School, Kansas City, Mo.

HERE is just the book for the automotive repairman who is constantly on the job, making repairs of every conceivable kind—and for the owner with a mechanical "bent" who does his own repairing.

The 118 jobs given in PART I were written as the work actually progressed—hence are practical to the last degree.

The theoretical principles of construction and operation treated in PART II convey in an easily understood manner a thorough knowledge of automotive equipment.

**430 pages. 6x9. Profusely Illustrated.
Durably bound in cloth, \$3.50**

With "WRIGHT" constantly at your elbow, you cannot go wrong in making repairs.

Send the coupon TODAY

ORDER COUPON

Automobile Topics,
1790 Broadway, New York, N. Y.

Gentlemen:—
Please send me a copy of "Wright's Automotive Repair" for which I enclose herewith \$3.50.

Name

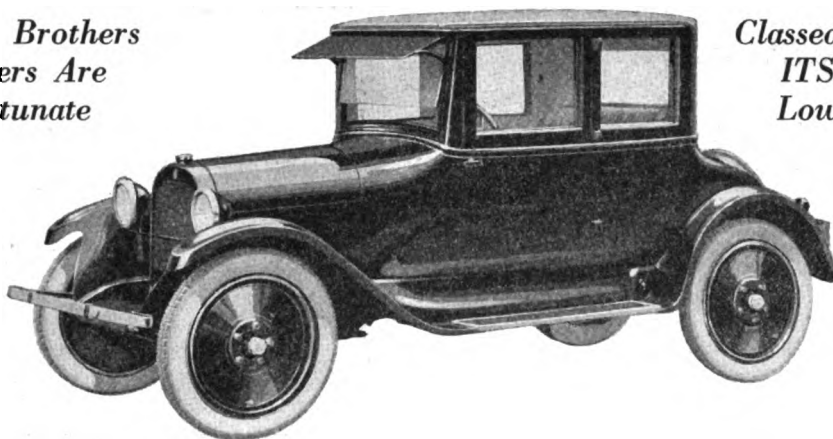
Street

City State

While the Demand Has Produced a Shortage

*Dodge Brothers
Dealers Are
Fortunate*

*Classed Above
ITS NEW
Low Price*



Manufacturers of good cars are calling for more good, closed bodies—without getting them. That is why the Dodge Brothers dealer is in enviable position. He can get a Lang semi-custom body quickly. We are able—and it is only fair—to offer added inducements on this quality four-passenger coupe for Dodge Brothers Number Three chassis.

Six, eight or twelve to the carload, with instructions for mounting. Or, by arrangement, they can be mounted in our plant.

The **LANG BODY COMPANY**
CLEVELAND, OHIO

UNION DRAWN STEEL COMPANY

The World's Largest Bright Finished Steel Plant Offers You

QUALITY and SERVICE

COLD DRAWN AND TURNED AND POLISHED

Bessemer, Open Hearth, Nickel Chrome and Vanadium Steel

OUR WAREHOUSES CARRY A LARGE AND COMPLETE STOCK

Cold Drawn Shafting and Screw Stock in all sizes
of Round, Flats, Squares and Hexagons

UNION DRAWN STEEL COMPANY

Main Office, Beaver Falls, Pa.

Works, Beaver Falls, Pa., and Gary, Ind.

Offices and Warehouses—New York, Chicago, Philadelphia, Cincinnati, Detroit

Sales Offices—Boston, Buffalo and Cleveland

AUTOMOBILE TOP MATERIAL

in Single and
Double Textures

FORD RUBBER

Rubber-coated Drills, Ducks
and Muslins Combined
and Slip Cover Fabrics.

THE
TOLEDO AUTO FABRICS CO.

Toledo, Ohio

Conditions warrant a closer
co-operation between
Buyer and Seller.

We think we have some im-
portant matters of interest
to you, and would like very
much to confer with you on
your future requirements.

Hoping for an opportunity
to serve you.

EDMUNDS & JONES CORP.

Buchanan & Lawton Avenues
DETROIT, MICHIGAN

The Product of Belting Specialists

Made for
Service —
Boxed for
Sales

The
Rossendale-Reddaway

Belting & Hose Company

Newark, N. J.

General Sales Office

Woolworth Bldg., New York, N. Y.



STRAIGHTLINE

ENDLESS FAN BELTS



COUNTER-BALANCED CRANK SHAFTS HEAVY DIE FORGINGS

The Park Drop Forge Co.

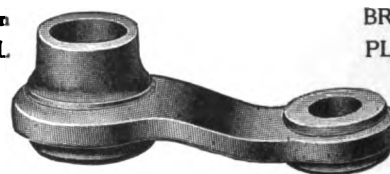
Cleveland, Ohio

METAL STAMPINGS

DIES AND TOOLS

DIFFICULT
DRAWING in
ANY METAL

WELDING
BRAZING
PLATING



We Have the Experience and Facilities Necessary to Assure
Satisfaction

THE OTTO KONIGSLOW MFG. CO.
3510 Perkins Ave. CLEVELAND, OHIO

CLASSIFIED ADVERTISEMENTS

Rates for advertising in this department, 45 cents per line, per insertion.
Minimum charge \$2.25. Cash with order. Each line contains about seven words.

MANAGER or SALESMANAGER, capable executive, 15
years in Motor Car trade, including branch manager, factory
supervisor of sales, distribution. Available now. Box 612,
Automobile Topics.

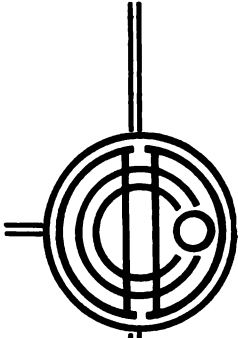
If interested in the Automobile Industry, Subscribe to

AUTOMOBILE TOPICS

THE TRADE
AUTHORITY

20 Cents Per Copy

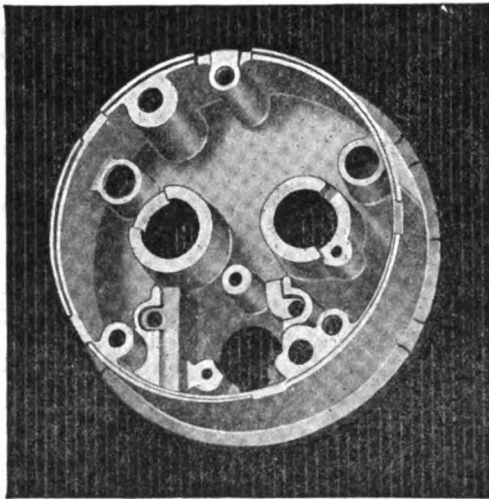
\$3.00 a Year



DOEHLER

The World's Largest Producer of

DIE-CASTINGS



Doehler Die-Cast Zinc Alloy Ignition Housing

A die-casting may be all that it should be—but unless it is used to best advantage, some of its value may be lost.

Doehler engineers make it a point to keep in close touch with Doehler customers, studying their product, its processing and assembling—and rendering every assistance that can be afforded by the broadest experience in die-casting and by daily contact with diversified industries and production methods.

DOEHLER DIE-CASTING CO.
BROOKLYN, N.Y.
TOLEDO, OHIO.



The Sign of Service

Let Your Nearest Ahlberg Branch Be Your Stock Room For Ball Bearings

We have all types of the highest grade ball and roller bearings in stock ready for immediate delivery.

In addition we have complete stocks of Ahlberg Ground Bearings to be had in exchange for your worn bearings, at a considerable saving.

When you next need bearings call at our nearest branch.

BRANCHES:

ATLANTA, BOSTON, BUFFALO, BALTIMORE, SEATTLE, BROOKLYN, CINCINNATI, CLEVELAND, ST. PAUL, COLUMBUS, DALLAS, DETROIT, INDIANAPOLIS, LOS ANGELES, DULUTH, KANSAS CITY, MEMPHIS, MILWAUKEE, MINNEAPOLIS, OMAHA, NEWARK, NEW ORLEANS, ST. LOUIS, NEW YORK, PORTLAND, OAKLAND, PHILADELPHIA, PITTSBURGH, PROVIDENCE, SAN FRANCISCO, WASHINGTON, TOLEDO, YOUNGSTOWN

Ahlberg Bearing Company
317 E. 29th St. Chicago, Ill.



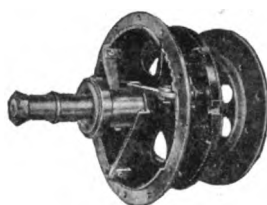
Through—
Asbestos
and its allied products
JOHNS-MANVILLE
Saves in Conservation

Heat Insulations, High
Temperature Cements,
Asbestos Roofings,
Packings, Brake
Linings, Fire
Prevention
Products

**JOHNS-
MANVILLE**

AUTOMOTIVE EQUIPMENT

The New Type "M&E" Clutch



The Flexible

A Quality Clutch—Low in Cost.

MERCHANT & EVANS CO.

Phila., Pa.

GURNEY

BALL BEARINGS

Have Greatest
Load Capacity

Gurney Ball Bearing Co.

Conrad Patent Licensee
Jamestown, N. Y.



Gurney Engineering Service is available at your request.

Most of the best cars of all classes use

Morse Silent Chains

Refer your cam and accessory drive problems to Morse Engineers

MORSE CHAIN COMPANY

ITHACA, N. Y.

Engineering & Sales Office

COR. 8TH & ABBOTT STS.

DETROIT, MICH.

51 ⁶/₁₀ MILES ON A GALLON OF GAS

It is the official world's record breaking test with Ford Touring car. The 1922 Stromberg Carburetor and Hot Spot did it—made this marvelous mileage possible.

Tens of thousands of Ford owners are now obtaining more miles on a gallon—quicker get-away—easier starting—increased power and speed—all because of having their cars so equipped.

Live dealers are requested to write for facts pertaining to territory.

Stromberg Motor Devices Co.

64 E. Twenty-fifth St., Dept. 19, Chicago, Ill.

WARNER GEAR COMPANY MUNCIE, INDIANA



CLUTCHES, TRANSMISSIONS, CONTROLS, DIFFERENTIALS

Piston Rings for Every Need



Gill Special Servus

GILL MFG. CO., 8300 South Chicago Ave., Chicago

Motor Wheel PRODUCTS



TUARC
DISTEELE
FORSYTH
Steel Wheels

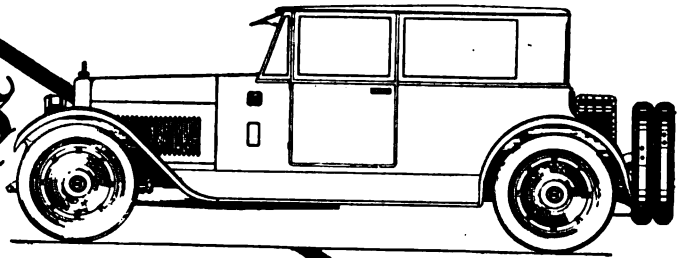
WOOD
WHEELS
for Passenger
Cars and Trucks

Gier Stampings

MOTOR WHEEL CORPORATION, LANSING, MICHIGAN

Schutte Bodies

are custom quality equipment manufactured on a semi-production basis. They are in all features worthy the best traditions of the coach builders' art. We have now on hand a number of Four Passenger Two Door Coach Bodies of 1923 design, that offer an unusual opportunity for dealers. If you have a customer with a Touring or Roadster chassis and a desire for an enclosed car, this body will meet the most critical requirements. Can be adapted for chassis of from 120" to 132" wheelbase. Furnished complete ready to mount on chassis, or if preferred, less paint and upholstery. Will serve to transform slow selling trade-ins into rapidly moving stock. Car-builders may find this body-type very useful—write for details. Prices very interesting.



FOR YOUR CAR

CHARLES SCHUTTE BODY CO.,
Custom Coach Builders
Lancaster, Penna. U. S. A.

INTERNATIONAL MOTOR TRUCKS *for low-cost hauling*

Models range from the 2,000-lb. Speed Truck to the 10,000-lb. truck. Some territory is still open for dealers.

INTERNATIONAL HARVESTER COMPANY
of America (Incorporated)
CHICAGO U. S. A.

Commercial Transportation
requires a dependable motor. The new Waukesha Bus and Truck Motor assures unwavering town or country performance, at negligible upkeep. Write for details.
THE WAUKESHA MOTOR COMPANY
Waukesha, Wisconsin

Waukesha
TRADE MARK

BUS and TRUCK MOTORS

Keep Posted

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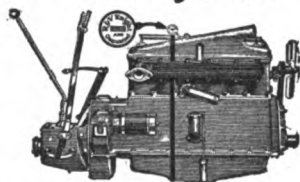
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The New R&V Knight Six Engine furnishes the most dependable, economical and satisfactory motor transportation in the world. We authorize any legitimate automobile dealer to sell this car. Our unique selling plan that requires no capital from dealer will be sent on request. Write or wire for details.



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GET this display board and let it help you increase your sales of Sparton Motorhorns. It is a real sales-maker. Just let your customers press the button and hear the mighty voice of the Sparton. If you are not now handling the Sparton, write today for details of our sales policy.

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Topics*

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AND SPECIAL TOOLS

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TWIST DRILL & TOOL CO.

DETROIT, U.S.A.



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We also specialize in Case Hardening and Tool Tempering.

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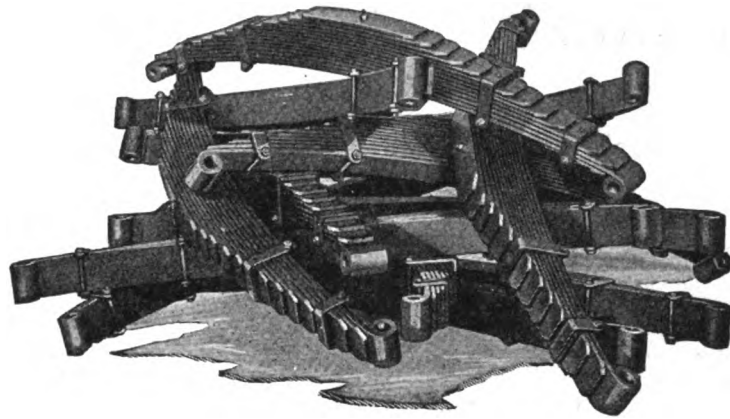
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MATHER SPRINGS

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RODS, EXHAUST TUBES, TAIL PIPES, IGNITION
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LAMP TIE RODS, RADIATOR OUTLET PIPES,
STRAIGHT TUBING, RANGING FROM 1/2" O. D.
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The STANDARD STEEL TUBE Co.
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General Motors Bldg. DETROIT, MICH.

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Angular Contact Thrust Bearings.
Thrust Ball Bearings.
Made to the Blue Prints and dimensions required by customers.
"Star" Ball Retainers for Thrust, Magneto and Cup and Cone Bearings.



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1012 Ford Bldg.,
Detroit, Mich.

**THE BEARINGS COMPANY
of AMERICA**
LANCASTER, PENNA.

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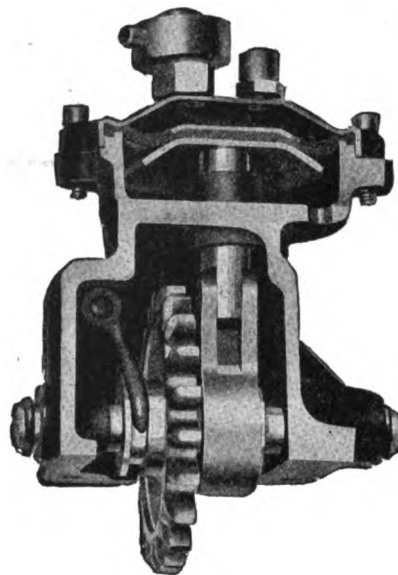
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Automotive Products For Automobile Manufacturers

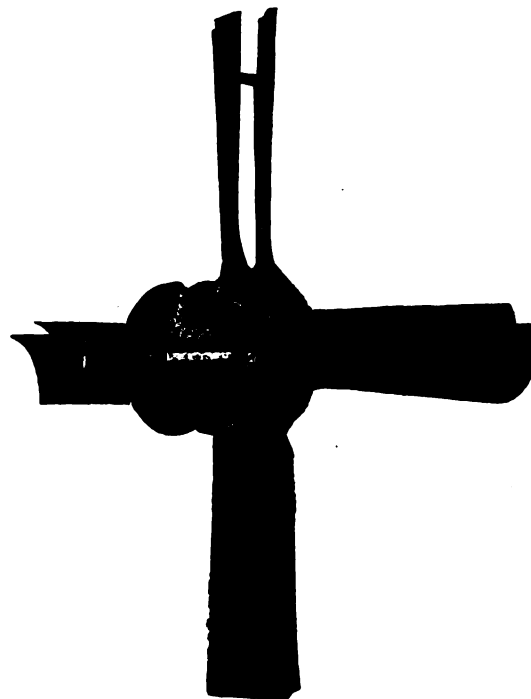
Detroit Diaphragm Pump

Said by Engineers to be the most efficient pump on the market. No oil can get to your tubes.



"Pitter" Multiblade Fans

A great forward step in fan construction. The multiblades increase the cooling and prevent heating troubles.



Detroit Carrier & Mfg. Co.
Detroit

KEEP · SMILING · WITH · KELLYS



Cashing in on the Cash-In Book

What is the Kelly Cash-In Book?

"It is a liberal education in retail selling," says one young man just starting in business.

"It gave me a new slant on tire selling," declares a veteran tire dealer.

Briefly, the Kelly Cash-In Book is a collection of practical and tried selling plans compiled by men who have been in the tire business for years and whose experience qualifies them to speak authoritatively. It is filled with good ideas that have helped others to increase their business and will help you to do the same.

Among the subjects discussed in this book are:

- What sales promotion means to the modern tire dealer.
- How to analyze your sales territory.
- How to establish a monthly quota basis.
- How to localize national advertising.
- How to handle collections and credits.
- Direct Mail's place in modern selling.
- 1923 ways for landing the prospect.
- Exclusive sales advantages of Kelly dealers.

The Kelly Cash-In Book is only one of the 1923 tools with which Kelly has equipped its dealers. There is a limited supply of these books on hand. Write us or ask a Kelly salesman how you can get a copy without cost to you.

KELLY-SPRINGFIELD TIRE CO.

250 West 57th Street
NEW YORK

KEEP · SMILING · WITH · KELLYS

Automobile Topics

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APR 24 1933

THE TRADE AUTHORITY

Vol. LXXII. No. 1

PUBLISHED WEEKLY
NEW YORK, NOVEMBER 17, 1923

TWENTY CENTS A COPY
\$3.00 A YEAR

Entered as second-class matter August 14, 1912, at the post office at New York, New York, under the act of March 3, 1879.



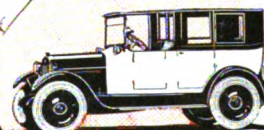
The Broadest Sales Field

For automobile buyers, in winter and summer, are the *New High Powered Reo Sixes* - 5 models, open and closed.



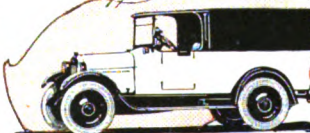
The *Speed Wagon*, the world's greatest commercial car, dominates truck sales. Supplied in twelve body styles.

Taxicab buyers are increasing in number. The *Reo Taxicab* is revolutionizing the taxicab industry and taxicab prices.



Reo Busses permit dealers to share in this growing business, marked by high profit possibilities.

The *Speed Wagon Parcel Delivery* provides a de luxe, compact and rapid vehicle for the city merchant who values smartness.



All Designed and Manufactured in the Big
Reo Shops,—Not Assembled!

Reo Motor Car Co.
Lansing,
Michigan

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Your Car —As the Woman Sees It



TO CATCH the feminine attention in the presentation of your car, it is necessary to appeal convincingly to woman, through her instinctive knowledge of fabric and color.

Her logic, more readily responsive than man's is reached through her sense of beauty and fitness—and a Laidlaw Closed Car Upholstery Cloth makes the correct impression.

It takes an experienced and sympathetic touch to design and manufacture closed car cloths which have an instant appeal to woman's sense of beauty and decorative value. Such technique is one of the elements which qualifies The Laidlaw Co., Inc. to produce Motor Car Fabrics, universal in their attractiveness to woman.

Are your cars trimmed in fabrics with this desirable appeal?

The LAIDLAW COMPANY, Inc.

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New York

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CHICAGO

ST. LOUIS

SAN FRANCISCO

MOON

in

Long Beach

Big Sales Right at the Start

The Smith-Richey Motor Company sold and delivered 27 Moon cars within the first 60 days after taking on the Moon line in Long Beach, California. Mr. Richey has wired:

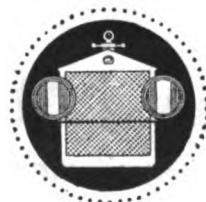
"We took on Moon May 28, 1923. Sold \$16,135 worth of new cars first 30 days; \$102,108 following 4 months. Used car stock inventories less than \$3,000 today. Made profit each month. We would not trade Moon account for any other one we know of today."

And quoting from one of Mr. Richey's letters:

"It does not require a superman to sell Moon cars. The combination of an efficient organization, and a distinctive motor car like the Moon — with its mechanical superiority and dependable performance — is a selling force certain to win the motorist."

Will you double *your* sales next year?

Think what you and Moon can do in 1924!

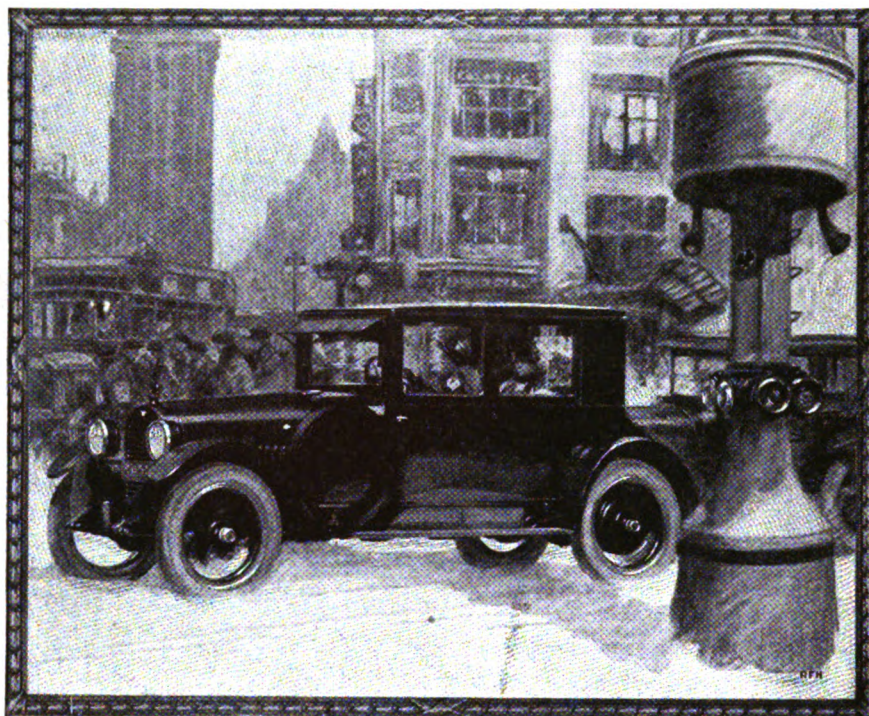


MOON MOTOR CAR COMPANY, ST. LOUIS, U. S. A.
Stewart McDonald, President

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

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HUDSON



Biggest Sales in Our History *Follow Hudson's New Low Prices*

Now the finest Hudson ever built is priced the lowest for which the Super-Six ever sold. It gives Hudson a new margin of advantage in price and quality. And remember for eight years Hudson has outsold all fine cars.

Hudson dealers are prosperous. Now their opportunity is greater than ever. Small line of cars to stock—only four models. Big demands and clean deals. Closed car comforts at open car cost. The Coaches are exclusive to Hudson and Essex. They mean active all year sales. Small free service costs. Assets of \$20,000,000—no debts. That means permanency. A finance plan of liberal terms.

Greatest Values Hudson Ever Offered

Speedster . . .	\$1295
7-Pass. Phaeton .	1350
Coach	1375
Sedan	1895

Freight and Tax Extra

Means Money to Dealers

Some Good Territories Are Open

Write Today

HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

Automobile Topics

THE TRADE AUTHORITY

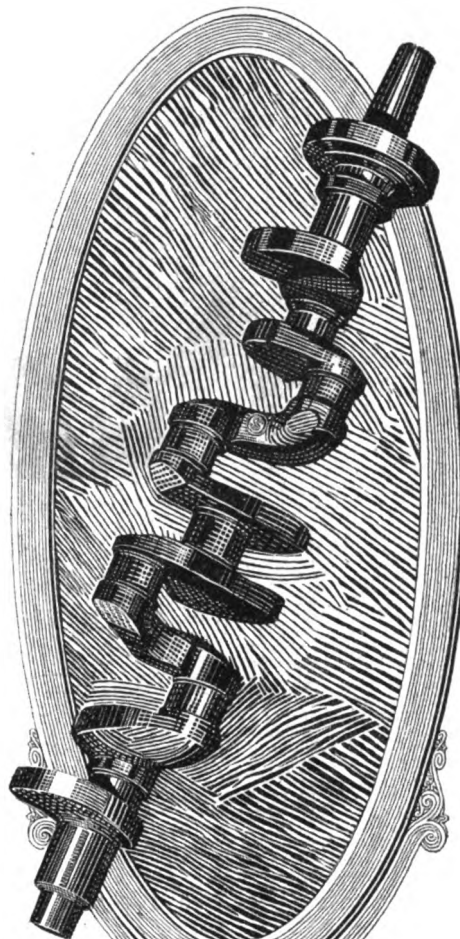
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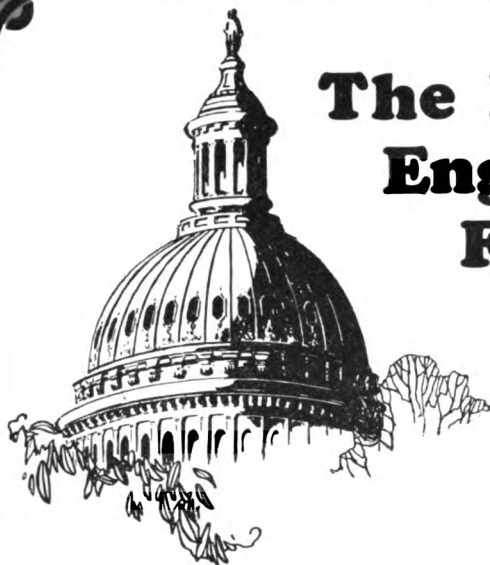


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SCIENTIFIC
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ZENITH

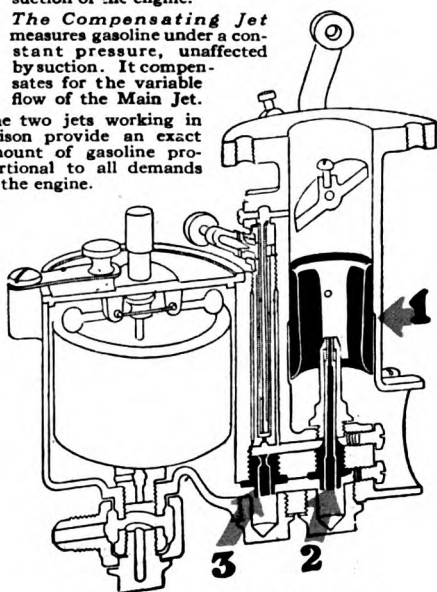


The Final Authority in Engineering Endorses Fixed Adjustment

The Research Committee of the S. A. E. in its recommendations for the conservation of fuel, made at the request of the Committee on Manufacturers of the United States Senate, advised:

- 1 *The Venturi controls exactly all air entering the motor.*
- 2 *The Main Jet measures gasoline in accordance with the suction of the engine.*
- 3 *The Compensating Jet measures gasoline under a constant pressure, unaffected by suction. It compensates for the variable flow of the Main Jet.*

The two jets working in unison provide an exact amount of gasoline proportional to all demands of the engine.



The principle of the Compound Nozzle and its application in the Zenith Carburetor are fully illustrated in "The Compound Nozzle Explained". A copy will be sent on request.

"The adoption as rapidly as possible of carbureting devices that can be adjusted once and for all by the maker to supply automatically a correct amount of fuel as completely atomized as possible for economical operation under all conditions."

ZENITH
CARBURETOR

It would be difficult to describe better the Zenith Carburetor. The widest possible selection of adjustment is furnished the engineer; but once the correct "setting" is determined, the controlling parts become integral parts of the carburetor requiring no further attention. The carburetor can be completely disassembled for cleaning or inspection without the possibility of mis-adjustment.

Zenith-equipped means uniformly high efficiency and economy for all cars, at all times.

Let us prove what it will do for you.

ZENITH-DETROIT CORPORATION

Manufacturer of

ZENITH CARBURETORS

DETROIT

MICHIGAN

NEW YORK

Branches:
CLEVELAND

CHICAGO

Service Stations in over 800 cities

STUDEBAKER



When Business Walks Out of Your Door

When a customer walks out of your salesroom because you do not have a car of the right size and style at the price he wants to pay, you lose more than the commission on that sale.

The chances are you have lost that customer for good. It costs money to get new customers.

The permanent customer is the mainstay of every successful business in the world.

Yet many automobile dealers are satisfied to turn away buyer after buyer whom they once sold because their cars no longer satisfy their tastes.

The Studebaker dealer occupies a unique position in the automobile industry. He is able to make life-time customers out of his buyers. Because Studebaker's complete line of three models (in thirteen body types) enables him to sell the same purchaser time and time again — and satisfy him each time with a Six — and with a Studebaker — of the same high quality and value.

Every buyer becomes a friend and every friend a booster.

This is one of the factors that have attracted so many keen business men to the Studebaker line—why, in fact, Studebaker dealers are universally successful.

THE STUDEBAKER CORPORATION OF AMERICA

South Bend, Indiana

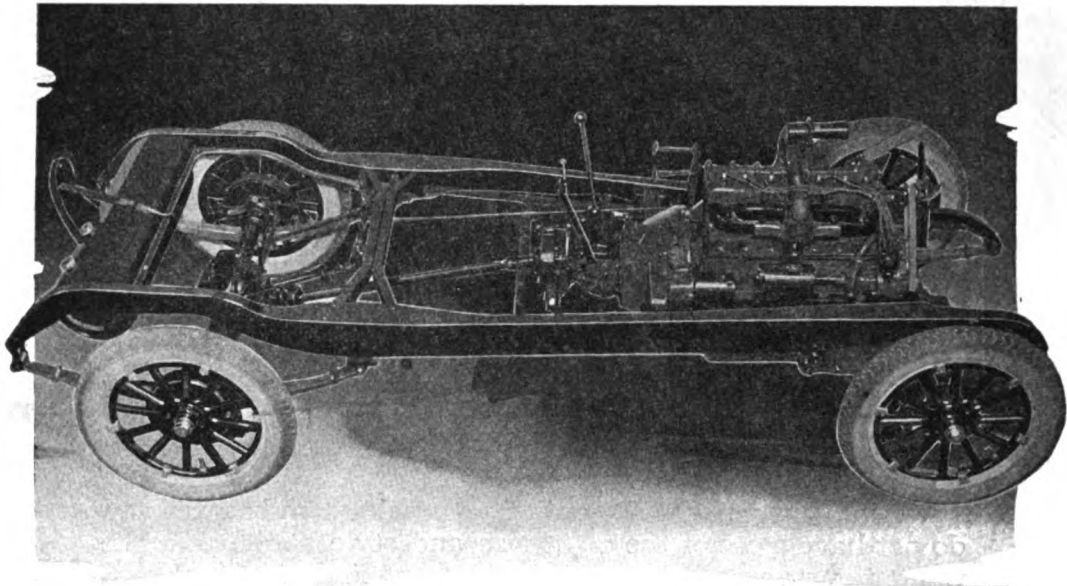
1924 MODELS AND PRICES—*f. o. b. factory*

LIGHT-SIX 5-Pass., 112" W. B., 40 H. P.		SPECIAL-SIX 5-Pass., 119" W. B., 50 H. P.		BIG-SIX 7-Pass., 127" W. B., 60 H. P.	
Touring.....	\$995	Touring.....	\$1350	Touring.....	\$1750
Roadster (3-Pass.).....	975	Roadster (2-Pass.).....	1325	Speedster (5-Pass.).....	1835
Coupe-Roadster (2-Pass.).....	1225	Coupe (5-Pass.).....	1975	Coupe (5-Pass.).....	2550
Coupe (5-Pass.).....	1475	Sedan.....	2050	Sedan.....	2750
Sedan.....	1550				

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Ball Bearings on Pump Shafts Prevent Wear and Protect Rotating Parts

IF the bearings on water pumps are subject to wear, frequent adjustments have to be made to prevent the rotating elements of the pump from hitting the stationary parts and causing serious damage.

But when Skayef self-aligning ball bearings are used water pumps are protected against damage without need of bearing adjustment. Even after years of service this type of bearing has the same truth of shape and accuracy of performance as when new.

Furthermore, ball bearings operate in

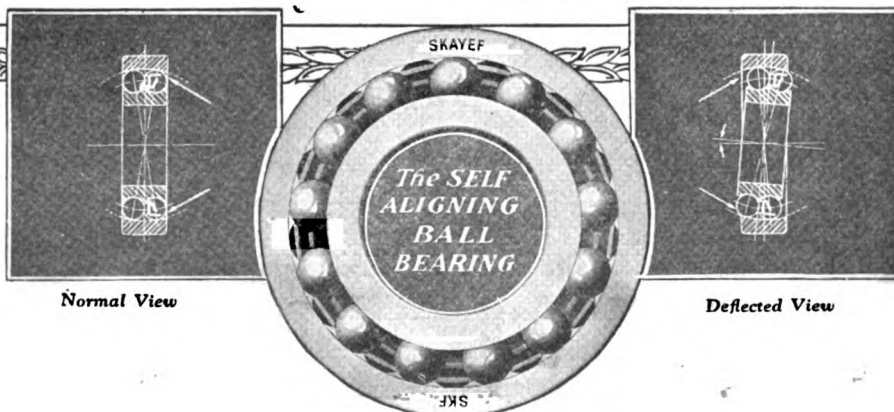
sealed housings which effectively prevent the entrance of water and keep the lubricant from leaking out. A little oil or grease at infrequent intervals is all the attention required.

Because of their maintained precision, free-running qualities and freedom from the necessity for frequent lubrication ball bearings are especially well adapted to use on all vital rotating automotive parts. May our engineers submit definite recommendations for solving your specific bearing problems?

THE SKAYEF BALL BEARING COMPANY

Supervised by **SKF** INDUSTRIES, INC., 165 Broadway, New York City

1053



BALL BEARINGS
The Highest Expression
of the Bearing Principle

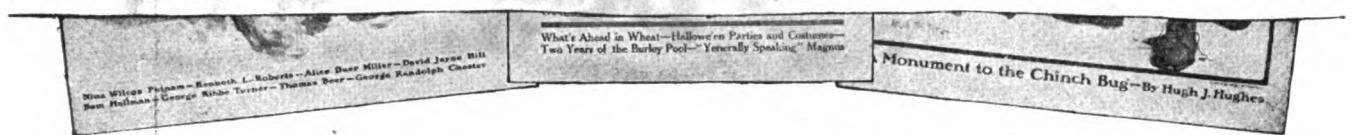
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MULTIBESTOS

*The Brake Lining
with the Interlocking Weave*



Watch These Magazines

THE Multibestos advertising campaign to the consumer is continuing in full force, telling car owners the story of the Interlocking Weave and the consequent long life it gives Multibestos Brake lining. We call this to your attention because it seems the general custom to discontinue consumer publicity on brake lining at this time of the year.

This is just one phase of the excellent support that Multibestos aims to give the trade. First of all, Multibestos gives you a high grade product to offer your trade. A brake lining which gives long life and complete satisfaction. Furthermore, it gives a method of installing this brake lining which saves time for both the car owner and the man who installs the lining.

Take advantage of this support by carrying Multibestos. Write for full information regarding Multibestos and the patented, time-saving Multibestos Method of Relining External Brakes.

MULTIBESTOS COMPANY,
WALPOLE, MASS., U. S. A.
Dept. AT 11.



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The good Maxwell not only offers dealers sales possibilities that enable them to do a very profitable business, but to build, soundly, for the future.

Its price puts it within the reach of a very large market. Its beauty

of appearance and sturdy reliability give it a very definite dominance in its field.

Sales grow steadily. Each month the good Maxwell entrenches itself more firmly, and each month new dealers are added to its list.

The plant of the Northwestern Motor Company, Sioux Falls, S. D., shows that the good Maxwell is in strong favor in their territory—and that business is good.

MAXWELL MOTOR CORPORATION, DETROIT, MICHIGAN
MAXWELL-CHALMERS MOTOR CO. OF CANADA, LIMITED, WINDSOR, ONTARIO

The Good MAXWELL

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

THE FISK LINE 1924

**is something that every dealer
who sees it will want**

Any dealer not now holding a Fisk Franchise should learn what the Fisk line offers before he completes his plans for the next year. Wait for the Fisk man before you close for 1924.

There's a Fisk Tire of extra value for every car, truck or speed wagon

**The Fisk Tire Company, Inc.
Chicopee Falls, Mass.**



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Auto-Lite

Starting, Lighting & Ignition

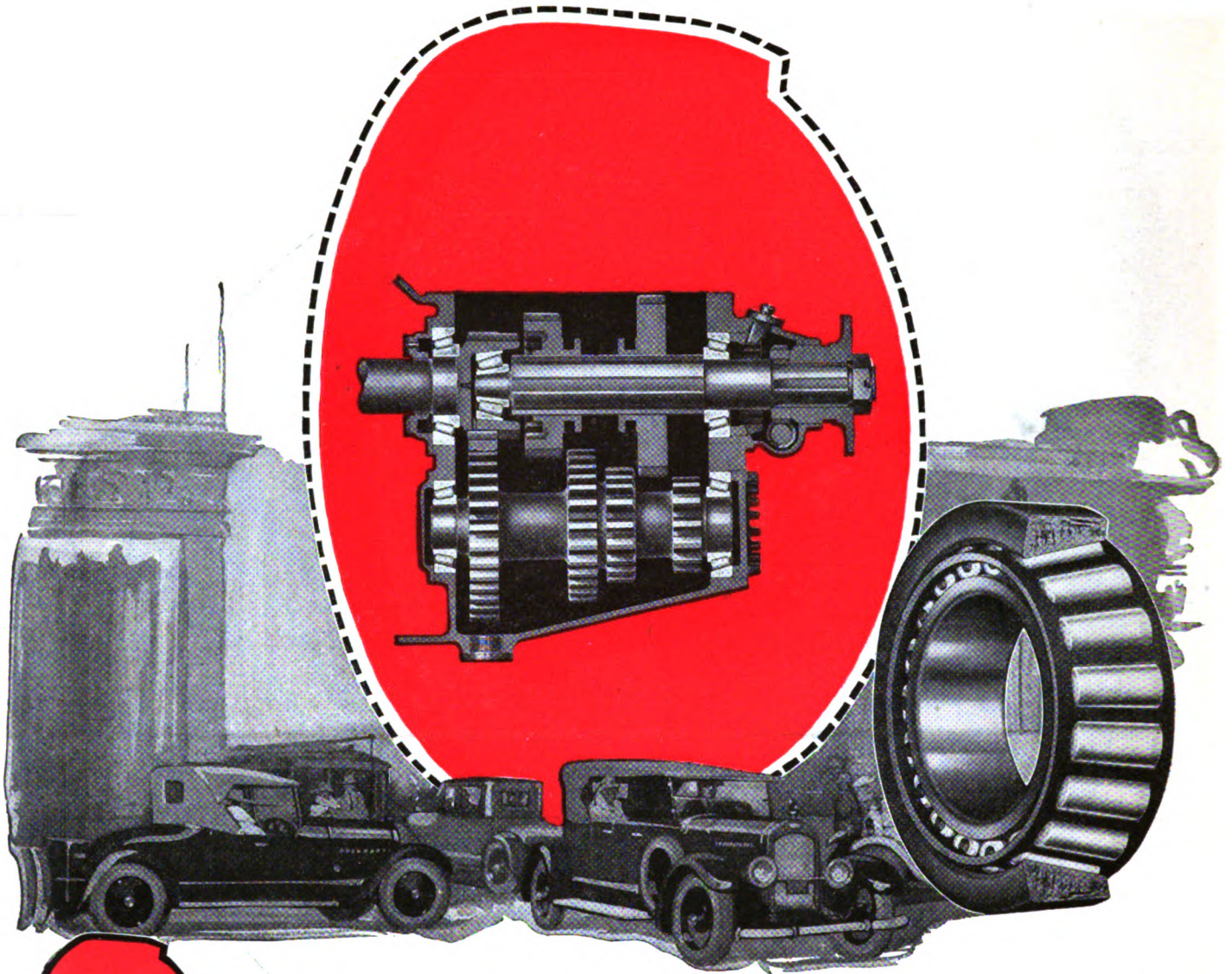
THE world takes the excellence of Auto-Lite for granted. The world takes the excellence of all exceptionally fine products for granted. It is the way of the world to take the best without question, and to question everything but the best.

Millions of car owners at home and abroad implicitly expect to find the Auto-Lite System in good motor cars. They expect it by force of habit, for the simple reason that outstanding good cars have long included and featured the Auto-Lite System.

THE ELECTRIC AUTO-LITE COMPANY
OFFICE AND WORKS: TOLEDO, OHIO







Matching the Requirements

Point for point, the *utilitarianism* of Timken Tapered Roller Bearings dovetails with the highest requirements for transmission mountings, as the following facts will show:

Load Carrying—Transmissions offer a particularly trying complication of heavy radial, thrust, and resultant loads, and shock loads, at high speeds. To care for this situation with economical, effective design requires the inherent Timken ability to carry *all* loads simultaneously, at *all* speeds.

Silence—Basically transmission silence has

largely resolved itself into obtaining stubby shafts for rigidity, and for the more compact, less resonant housings thus permitted. These are the very things so readily achieved through the use of Timkens; since Timkens carry more load per unit of space required.

Alignment—The simplicity of Timken mountings is an assurance of greater precision and more speed in assembly, and finally—

Timken Adjustability—for the wear that must follow motion perpetuates the original excellence of a transmission design.

The Timken Roller Bearing Co
CANTON, OHIO

TIMKEN

Tapered

ROLLER BEARINGS

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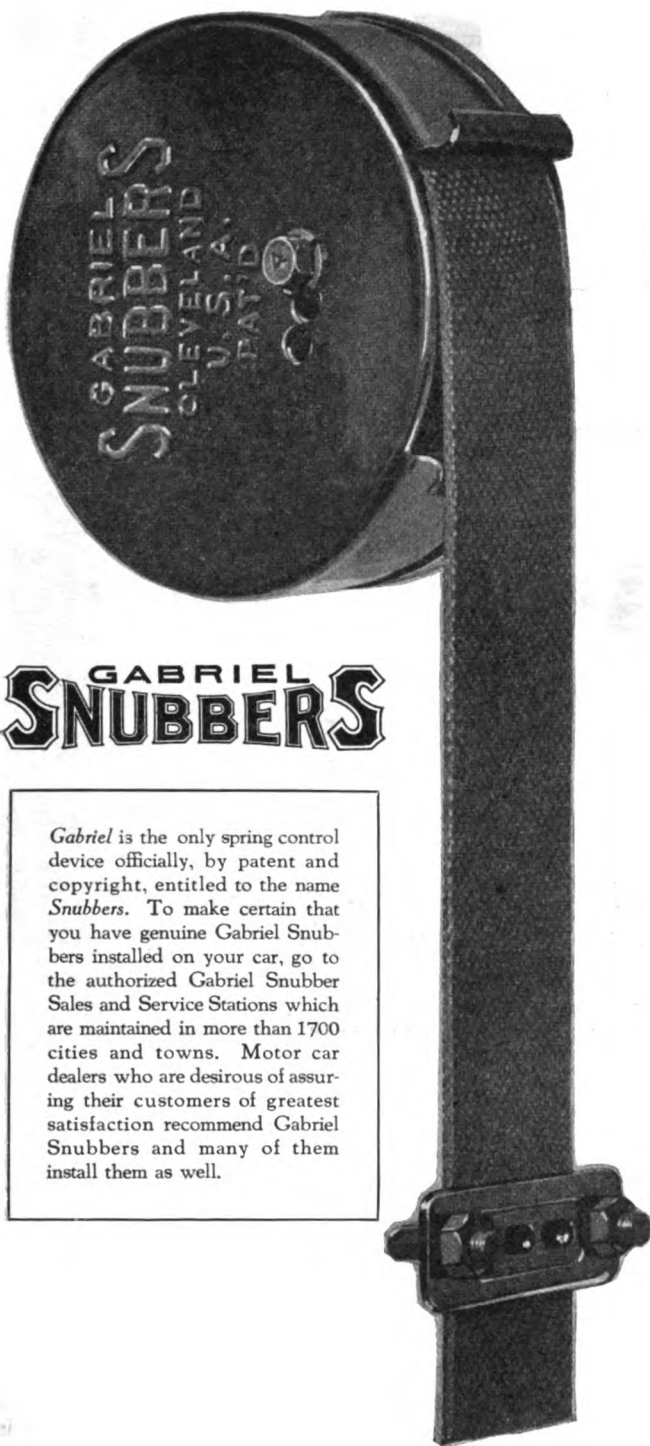
We'll
Fight
Friction
for you
Everywhere

THE TIMKEN ROLLER BEARING
SERVICE & SALES COMPANY
CANTON, OHIO

BRANCHES:

Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago
Albany	Boston	Chicago

Distributors Everywhere



**GABRIEL
SNUBBERS**

Gabriel is the only spring control device officially, by patent and copyright, entitled to the name Snubbers. To make certain that you have genuine Gabriel Snubbers installed on your car, go to the authorized Gabriel Snubber Sales and Service Stations which are maintained in more than 1700 cities and towns. Motor car dealers who are desirous of assuring their customers of greatest satisfaction recommend Gabriel Snubbers and many of them install them as well.

You Can Safely Accept the Endorsement of 61 Car Manufacturers

Imagine even one great motor car manufacturer so far endorsing and honoring a comfort-device as to *drill holes in the frame of every car he builds* so that the buyer can quickly have it attached.

Multiply one great manufacturer by 31 and you have the facts in regard to the unique and extraordinary tribute which American automobile producers have paid the Gabriel Snubber.

Thirty of them have made Gabriels part of their standard equipment—31 others have paved the way so that the public can simply and economically take advantage of Gabriel.

And what are these advantages which have so impressed motor car manufacturers with real pride in their product that they consider that Gabriel Snubbers add something which even the most careful motor car engineering cannot give?

It is because they know that Gabriel Snubbers make the car ride easier. That the passengers are not conscious of ordinary irregularities in the road. That driving is in every way more comfortable.

They know that Gabriel relieves the car of excessive road shock; that this means longer life to the car, greater mileage on tires and very much less servicing.

The manufacturer knows that these things all contribute in a marked way to owner satisfaction and that owner satisfaction is essential to the continued prosperity of the dealer and the car maker.

That is why so many factories provide the means for easily attaching Gabriel Snubbers. That is why so many dealers recommend them.

The Gabriel sales plan for 1924 presents a very attractive proposition for the car dealer. Communicate with the Gabriel distributor in your territory or direct with the factory for details which you should be familiar with.

GABRIEL MANUFACTURING COMPANY
1421 East 40th Street - Cleveland, Ohio
Gabriel Manufacturing Co. of Canada, Toronto, Ont.
~ Sales & Service Everywhere ~

Gabriel

**Greater
Riding
Comfort**

Snubbers



One chassis and only one for all cars—refined and perfected constantly over a period of years.

That, in brief, is the manufacturing principle underlying the success of Dodge Brothers Motor Car

A Car Agent with Positive Ideas on Time Value

Two paragraphs—no more. And yet if you wrote a volume could you tell any more clearly or forcefully than this Studebaker dealer has, the reason why some dealers are successful?

"The service which our customers are receiving from Goodrich Silvertowns far surpasses that of any other tires received as equipment on Studebakers.

Consequently, we impose upon you an unusual request, if it will not delay deliveries. We would appreciate having all cars come equipped with Goodrich Silvertowns exclusively. We feel that in making this request we are doing our customers a great favor—we are endeavoring to supply them with tires giving the same high grade service as the car they purchase."

DEPOT SQUARE GARAGE
Bath, Me.

We want to add something to that. Goodrich Sales Policy, like Goodrich Quality, never varies. It is solidly based on one big principle—dealer cooperation.

Build, with Goodrich, for permanency

THE B. F. GOODRICH RUBBER COMPANY
Akron, Ohio

Goodrich

TIRES

"Best in the Long Run"





Nash Leads the World in Motor Car Value

Here's the Nash Record in the Town of Plano

Just 1473 people live in Plano, Ill.

Exactly 48 Nash cars were sold in this town from January 1 to November 1 of this year.

These are figures that emphasize more forcefully than words the money-making possibilities of the Nash contract.

Some two years ago the Plano Garage dropped the line of cars they were handling in favor of Nash.

Today, as Nash dealers, they have built up a business that is truthfully remarkable in such a small selling radius.

And the secret of their success is this—a complete group of great values in both Fours and Sixes that outrank all similar cars on the market.

Now is the time for other ambitious dealers to get in line with the advancing sweep of Nash popularity.

A wire today will bring full information on the valuable Nash franchise and open territory.

NASH

THE NASH MOTORS COMPANY
KENOSHA, WISCONSIN

Nash Leads the World in Motor Car Value



(2329)

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Automobile Topics

THE TRADE AUTHORITY

Vol. LXXII

NEW YORK, NOVEMBER 17, 1923

No. 1

CLOSED CAR BUYING DETERMINES OUTLOOK

Prospects for Big Year to Follow Record-Breaking Output of 1923—Leading Concerns Are Now Planning Heavy Increases—Many Changes Foreseen.

Present conditions in the automobile business probably reflect the influence of closed-car buying more clearly than is generally appreciated. The industry is rapidly approaching the close of the most productive year in its history and just at a time when, by all seasonal precedents both manufacture and sales should be dwindling, the usual indications, as affecting the business as a whole are reversed. As though this were not enough, preparations are being made in several quarters for greater activity next year. This again represents a reversal of form, in view of the expected precautions against inflation, and demands explanation.

This may be given on two grounds, the more obvious being the tremendous enlargement of operations of the small but powerful group of concerns that has advanced into the position of unquestioned leadership. This group has more distinctively set itself apart this year than ever before, so that its operations, collectively, not only dominate the industry statistically, but effectively screen the operations of companies that are proceeding along more moderate lines.

Dealers handling what have come to be known as the standard lines are for the most part doing business at a famous rate. Reports from them in many instances are far from enthusiastic, but when the admission is forced that current sales are equal to or greater than those for the same period of last year; that in turn, having shown a marked

excess of sales over preceding Fall periods, it is discovered that the retail state of mind is determined rather more by considerations of current profit than gross volume, or if not that, by apprehension lest the future may fail to show continued increases. In other words, having increased their strings very materially, the dealers simply fail to see how they can produce the continued increases that are to be demanded of them in order to fill out present factory sales programs.

All this applies to sales in general, but it must not be overlooked that direct reports from dealers repeatedly indicate closed cars selling from forty to sixty per cent of the total. In addition, many instances have come to light in which the closed-car supply is insufficient to meet the local demand.

(Continued on page 30, first column)

OCTOBER SALES HIGHEST YET FOR GENERAL MOTORS

Total of 86,800 More Than Twice the October 1922 Figure

Preliminary reports of General Motors car manufacturing divisions for October indicate a total production of 86,800 passenger cars and trucks, as compared with 40,815 for the corresponding month of last year and 69,081 for September, 1923. Figures included combined sales of the operating units in the United States and Canada and cover Buick, Cadillac, Chevrolet, Oakland, Oldsmobile and GMC lines.

Last year's peak production was in November, when 50,232 units were sold, as against a spring sales peak of 48,541. The highest month previously recorded this year was April, when the sales total was 75,822. The official figures for the last three months follow:

	1923	1922
August	65,998	42,840
September	69,981	35,443
October	*86,800	40,815

*Preliminary figure.

MELLON'S TAX PLAN HAILED BY INDUSTRY

Makes Soldier Bonus Issue Square-Cut on Eve of Congress—Submits Detailed Plan for Lower Tax Costs—Calls Present System a Failure.

Practically on the eve of Congress going into session Secretary of the Treasury A. W. Mellon, by promulgating a plan that throws a proposition of no soldiers' bonus and lower taxes squarely up to the legislators, has created more discussion in all walks of life than is manifested in any other current economic problem. Briefly, his plan sets up the offer of substantially reduced Government taxes as an incentive to prevent the passage of the soldier bonus bill that is destined to occupy a great deal of attention during the coming session.

There has been no dissenting voice from industrial and financial circles since his plan was first broadcast this week. Almost without exception the commercial and financial leaders of the Country have issued blanket indorsements of the idea. In some quarters, where a political smoke screen was thrown around the issue, dissension has been noted, but this has been buried beneath the flood of favorable comment.

Details of Mellon's plan were given out in a published letter from himself to William R. Green, acting chairman of the Committee on Ways and Means of the House. His reason for outlining the plan is explained in the opening as follows: "In accordance with the request which you made shortly after the adjournment of Congress, the Treasury has been engaged for the past few months in considering the possibilities of tax revision and in developing recommendations for the simplification of the law. The situation has developed more favorably than was anticipated."

The communication shows that if the sol-

(Continued on page 31, first column)

MOONEY MADE A DIRECTOR OF GENERAL MOTORS CORP.

President of Export Company Elected a Member of the Board

James D. Mooney, vice-president of the General Motors Corporation and president of the General Motors Export Co., has been elected a director of the Corporation. His election, on November 8, followed just about one year after his advancement to full charge of General Motors foreign sales program, which is highly important.

Mooney was formerly general manager of the Remy Electric Division of the Corporation and was made operating vice-president of the Export company about two years ago. He left this Country on an extensive foreign tour last July, is now in Copenhagen, Denmark, and is expected to return some time next month.

John Hertz Goes Abroad

John Hertz, president of the Yellow Cab Co., Chicago, was among the passengers sailing for Southampton and Cherbourg on the "Aquitania" this week. He expects to be gone for several weeks and will visit several Continental cities as well as points in the British Isles during his trip.

Packard Directors Re-Elected

At the annual meeting of stockholders of the Packard Motor Car Co. in November, the retiring directors were re-elected. They are: Frederick M. Alger, Richard P. Joy, Alvan Macauley, Truman H. Newberry, James T. McMillan, Russell A. Alger, and Henry E. Bodman.

George Hunt Takes on New Line

George Hunt, manufacturers' representative, has taken over the sales of the Hershey Lock. Operations will be directed from his headquarters in Detroit. Announcement of this move was made in Chicago in connection with the show of the Automotive Equipment Assn.

Seeks European Contracts

W. E. O'Neil of the Stromberg Carburetor Co., is now in Europe negotiating for 1924 contracts. Company's export trade has increased recently and new devices will materially enlarge foreign sales, it is thought.

General Motors Officials Return

Among the returning passengers on the "Aquitania" which docked November 9 were: H. H. Bassett, president and general manager, and F. A. Bower, assistant chief engineer of the Buick Motor Co.; B. Jerome, chief engineer, Oakland; W. H. Moyse, chief engineer, Canada General Motors; W. R. Strickland, assistant engineer, Cadillac; R. K. Jack, chief

engineer, Oldsmobile; Lawrence Fisher and A. J. Fisher of Fisher Body Corp. The party sailed for Europe on September 22.

Hahl Promoted in Klaxon Service

H. E. Hahl has been promoted to the post of service manager of the Klaxon Co. at the home office in Newark, N. J. He has been associated with this branch of the work for some little time and his promotion is in the nature of a reward of merit.

CADILLAC ADVANCES WEIL

Canadian Production Man Adds Sales

Edward J. Weil, formerly of the Cadillac Motor Car Co., Detroit, and now general manager of production at the Oshawa Cadillac plant, has been given the added duties of general sales manager for the Dominion of Canada. Weil was transferred from the production division of the Detroit factory to the Oshawa plant upon its completion last February.

Previous to his connection with the Cadillac organization, which began at the close of the war, Weil was engaged by the Wright-Martin Aircraft Corp. to organize production and manufacture of the Hispana-Suiza 8-cylinder motor for the French Government. Later he did similar work for the American Government.

J. E. Wild Raised by Robert Bosch

J. E. Wild has been made manager of the sales promotion division of the Robert Bosch Magneto Co. with headquarters at the home office in New York. He has been associated with the concern for some little time and his advancement is in the nature of a reward for past activities.

DAUM NOW A VICE-PRESIDENT

Long in Service of Pennsylvania Rubber

George W. Daum, assistant general manager of the Pennsylvania Rubber Co., has been elected a vice-president, according to official announcement this week. He has been with the concern for 14 years, working his way from cost manager to be general superintendent, and finally to be assistant general manager under Seneca Lewis.

The official family of the Company is at present constituted as follows: Herbert DuPuy, chairman of the board; Charles M. DuPuy, president; Seneca G. Lewis, vice-president and general manager; George W. Daum, vice-president, and A. H. Price, treasurer.

Michigan Sells \$3,000,000 in Bonds

Michigan is advertising for bids on highway construction as the result of a new \$3,000,000 bond issue. Total issue to date is \$35,050,000. In all \$50,000,000 has been authorized.

F. A. HITER NOW BASSICK GENERAL SALES MANAGER

Lockridge Adds Assistant Sales Manager to Advertising Title

F. A. Hiter has been promoted to larger duties in the Bassick Manufacturing Co., taking the title of general sales manager. Coincidentally C. H. Dalrymple has been made an assistant sales manager in charge of the spring cover division. Francis Abeles and R. T. Gilpin have also been appointed assistants in charge of other branches of the work.

Further appointments are those of Paul Wilson, manager sales manufacturers division; and J. H. Frier, Jr., manager sales, industrial division. W. F. Lockridge has added to his title of advertising manager that of assistant sales manager as a result of taking up more comprehensive activities.

Edward J. Hathorne

Edward J. Hathorne, treasurer of the Atlantic Coast Lumber Corp. and the United States Tire Co., died November 9 at the Post-Graduate Hospital in New York. He was also a director of the G. and J. Tire Co., Morgan and Wright, Hartford Rubber Works, Black River Water Co., and Mechanical Rubber Co. He was vice-president of the last named company.

Albert D. Johnson

Albert D. Johnson, secretary and treasurer of the Diamond Chain and Manufacturing Co. of Indianapolis, died suddenly November 1. He was 58 years old and had been connected with the bicycle and automobile industries since 1889.

In the early bicycle days Johnson was associated with C. F. Smith of Waverly Bicycle fame. Later he joined with L. M. Wainwright in organizing the Central Cycle Co. When the Diamond Chain and Manufacturing Co. was organized in 1905, Johnson took charge of the office which he held up to the time of his death.

William D. Packard

William D. Packard, 62 years old, who with his brother, J. W. Packard, originated the first Packard automobile, died at his home in Warren, O., November 11. The funeral was held in that city on November 13. He had been an invalid for many years, being blind for almost 10 years.

Death was hastened by a cold contracted early last week. The two brothers organized the Packard Electric Co., in 1900, the first Packard automobile making its appearance a short time later. They retired eight years later when the Company was renamed the Packard Motor Car Co., and was taken over by interests in Detroit.

WILLYS TELLS FINE POSITION OF COMPANY

Produced and Sold 17,293 Automobiles in October—Good Earnings Are Assured—Records in Earnings and Output Are Being Established by Company.

New records in earnings and output are being established by the Willys-Overland Co., according to John N. Willys, president. Schedules for production at the big Toledo plants have been revised upwards each week for the past month or so and affairs are going ahead at an unusual pace.

"In October," said Willys, "the Company produced and sold 17,293 cars, which is three times as many as in any previous October in the Company's history, and business continues at a very satisfactory level. We expect to produce 20,000 cars this month, which will also be a record. Good earnings are assured for October and November, although there may be some falling off in December. The outlook for 1924 is very good.

"Total output for 1923 will probably be between 205,000 and 210,000 cars, which is more than double the 1922 production and compares with 141,000 cars in the company's best previous year.

"Earnings recently have been averaging in excess of \$1,000,000 monthly after interest and taxes. For the third quarter ended September 30 our statement will show net after interest and taxes of \$3,700,000."

Durant Changes Sales Policy

Following the resignation of M. L. Leahy, general sales manager of Durant Motors Inc., to become a distributor for Durant in Syracuse, N. Y., it has been announced that the company has abandoned its policy of having a centralized sales office for the Durant string. Hereafter each manufacturing unit of the Durant interests will direct its own sales in its own territory.

Stutz Outlook Is Excellent

"It looks as though our Winter business will be exceptionally good," declares W. N. Thompson, president of the Stutz Motor Car Co. of America, Inc. "At present we have quite a few orders on hand for immediate delivery. A large percentage of Winter business will be in sedans. This is not surprising because the differential between the price of our touring car and sedan is very small."

Front Brakes on British Rolls

Four wheel brakes, with a servo mechanism for multiplying the pedal power are a feature of the newest model 40-50 Rolls-Royce exhibited at the Olympia show in England. This chassis, like the 20-horsepower model, is built for European trade exclusively. Rolls-

Royce of America, Inc., which builds the cars sold in this Country, enjoys considerable autonomy in its administration and thus far has given no indication of a disposition to depart from its long-established practice of braking on the rear wheels only.

Predicts Better Exports For Buick

President H. H. Bassett of the Buick Motor Co., upon his return from Europe this week said, "Outlook for our business is very good in the British Isles, Spain, Holland and Belgium, and business for the coming year should show large increases over this year. We are producing about 150 cars daily for export, which represents about 12½ or 15 per cent of our total production.

McCord Radiator Men Meet

Third Successful Gathering Held

Concluding the third and most successful sales convention November 10, in Detroit, members of the sales organization of the McCord Radiator & Mfg. Co., went to Chicago to attend the Automotive Equipment Assn. show. Plans were made for the ensuing year aiming to effect a greatly increased distribution. Addition to the lines and augmented representation was also planned.

Three new members of the field organization were presented at the convention. They were: Elmer W. Brown, covering Chicago and surrounding territory; George H. Hausaman, southern and southwestern states, and Fred Carruthers, who takes over the Pacific Coast territory. Each of the new men enters the McCord organization with a background of wide and successful distributing experience in the automobile field.

To Hold Joint Meeting

A joint service meeting of the National Automobile Chamber of Commerce and the Society of the Automotive Engineers will be held in Dayton, O., November 20 and 21. Speakers will be C. F. Kettering, General Motors, R. E. Carlson, U. S. Bureau of Standards, Don T. Hastings, Williams & Hastings, J. Willard Lord, Automotive Service Assn., O. T. Kreusser, General Motors Research Corp., E. F. Hallock, Vacuum Oil Co., T. A. Waerner, Tide Water Oil Co., W. L. Wise, National Cash Register Co., W. A. Francis, Ford Motor Co., Cincinnati, P. J. Durham, Automotive Electrical Service Assn., J. C. Halbleib, North East Electric Co.

Chevrolet Production Mounts

Output of the Chevrolet Motor Co. for October totaled 56,233 cars. This is the largest production of the Company for any month this year and is an increase of 9,795 over September.

HUPP SHIPMENTS ARE TO EXCEED LAST YEAR

Total for Current Year Estimated at 40,000 Cars—Increase Is 6,000 More Than 1922—Financial Position Considerably Stronger Than Last Year.

Shipments of Hupmobiles for 1923 are expected by officials of the Hupp Motor Car Co. to amount to 40,000 cars, which is the schedule set for this year. This will be an increase of 6,000 over last year. Up to November 1, shipments were in excess of 34,500 and the November schedule calls for 3,000 cars.

Net for dividends this year is estimated at \$2,000,000, or about \$3.40 a share on 571,131 shares of \$10 par value common after allowing for dividends on preferred. In 1922 the Company earned \$3,763,983 or \$7.13 a share on 519,210 shares, against \$890,278 or \$1.59 a share in 1921. In March this year a 10 per cent stock dividend increased common shares to 571,131.

Sales in 1923 are expected to reach \$40,000,000, a high record. The following shows the Company's growth the past six years:

	Sales	Net for Divs.
*1923.....	\$40,000,000	\$2,000,000
1922.....	34,122,847	3,763,983
1921.....	16,946,437	890,278
1920.....	26,263,007	2,366,339
1919.....	20,161,613	1,751,662
1918.....	10,472,223	606,547

*Estimated.

Falling off in net, in view of increase in sales and output, is due to expenses incidental to introduction of new models which caused a six weeks' slowing up in mid-summer and was reflected in July output, which dropped to around 1,000 cars. Since that time shipments have been speeded up to a high record in September of 3,500, and in October were just under 3,000 cars.

Financial position is considerably stronger than at end of last year, when net tangible assets equalled \$18 a share on common then outstanding. There were only 6,778 shares of preferred outstanding Dec. 31, 1922, and with earnings equal to nearly 3½ times the annual \$1 dividend, the common occupies a favorable position.

Quadstoppers on Locomobile

Four-wheel brakes are being offered by the Locomobile Co. of America, as extra equipment, the first showing of the Company's cars thus equipped having been made this week at the Automobile Salon in New York city. Standard braking system, in which two separate brake drums on each rear wheel are used, will be continued on all jobs, with or without quadstoppers. The type of front wheel brake adopted is a modification of the Isotta design. Brakes are internal expanding with compensating action that allows perfect steering control.

CHARLOTTE BRANCH IS FORD'S THIRTIETH

Million Dollar Plant to Assemble 400 Cars a Day—Territory Credited With 66,500 Sales—Controls 345 Dealers—The Move Is a Significant One.

Announcement has been made that the thirtieth domestic assembling plant of the Ford Motor Co. is to be established at Charlotte, N. C. A total investment of about one million dollars is involved, plans calling for an output of 400 cars a day. Local estimates indicate this will mean an increase in population for the city of between 2,500 and 4,000 persons on a basis of 500 to 800 hands employed.

Charlotte heretofore has been the most important Ford sales branch territory, having 345 dealers associated and being credited with sales of 66,529 units in the year ending September 1st. In importance the territory is exceeded only by New York, Chicago, Detroit, Philadelphia and Kansas City, all of which have assembling branches.

Aside from its local interest the move is regarded as signaling the opening up in an important way of the territory to which Charlotte is the commercial portal. Ford registrations in North Carolina alone exceed 100,000 and constitute about 60 per cent of the grand total. For those lines which are logically regarded as Ford replacements, therefore, the portent of greater activity constitutes a most effective entering wedge.

RICKENBACKER TO REDOUBLE

Plans Output of 20,000 Next Year

Rickenbacker Motor Co. plans to build 15,000 to 20,000 cars at the most next year. This year's production will reach 10,000 as against 5,000 for the first year's output, according to B. F. Everitt, president and general manager of the Company.

"My own experience, which dates from the inception of the industry, tells me that at a very definite point in production, volume becomes incompatible with that degree of quality which satisfies the pride of the maker and the expectations of the buyer," he added. "My experience tells me that that point is reached at about 50, and passed at about 100 cars per day."

New Ford Model Announced

Ford Motor Co. this week introduced an addition to its line of cars in the form of the "Tudor" sedan to sell at \$590 at Detroit. It is distinctive type, carrying five passengers. Roof line is low and straight and the larger radiator that distinguishes all the new Ford cars is used. It has two exceptionally wide doors at either side in

the front of the body. Side windows run back from the door stanchions, oblong in shape and 32 inches long. Windshield visor, cowl ventilator and secure rear fenders are also features. New model has been named the "Tudor" because of its "two doors" and the four-door model has been rechristened the "Fordor," for the same obvious reason.

Oakland to Make 300 Cars Daily

Oakland Motor Car Co. has a program calling for production of 75,000 cars for the present fiscal year. Output will shortly be brought up to 300 cars daily, which is still behind sales according to C. J. Nephler, sales manager. Figures for October were three times larger than production figures for October 1922.

CHAMBER MOVES TRAFFIC DEPARTMENT TO DETROIT

Adopts Schedule of Regular Monthly Meetings for Company Managers

For the better service of its members the National Automobile Chamber of Commerce is moving its traffic department to Detroit, where a branch office has been maintained heretofore. Present headquarters in the Ford building will be retained for the time being, but in the not distant future larger space will be taken in the General Motors building. The change was decided upon as a means of facilitating traffic work, which naturally centers very largely in and around Detroit.

Monthly meetings of traffic managers representing the member companies in the Chamber will become a regular feature. J. S. Marvin, general traffic manager, is planning several other extensions of the work and will have full charge of the program and preside at the monthly meetings. The change, it is thought, will serve to bring about closer cooperation between automobile shippers and the railroads and will help to bring about a better understanding of mutual problems.

"Goddess" Feature of N. Y. Show

Model for the statue of the "Goddess of Transportation," the principal art feature of the National Automobile Shows at New York and Chicago, was selected this week by the committee named for that purpose. The model will be Miss Catherine Joy Moore, a dancer in the chorus of the Ziegfeld "Follies," and the sculptor is Louis F. Anderson.

Chicago Coach Increases Control

Chicago Motor Coach interests, through stock ownership in a holding company organized to acquire all securities of People's Motor Bus Co. of St. Louis, has begun control of bus lines in the latter city. Present local management of the St. Louis lines will be retained.

"GAS" STATIONS GIVE SERVICE FOR ALEMITE

Standard Oil Co. Stations in Baltimore Extend Service Features—Bassick-Alemite Working at Capacity—Steel Plants Are Equipped.

Development of gasoline filling station service by the addition of chassis lubricating equipment and supplies has been accomplished by the Standard Oil Co., of N. J., in its Baltimore retail stations. By offering service to all cars equipped with Bassick-Alemite systems the filling stations extend the scope of their business by providing motorists with a simple means of eliminating much personal attention to their cars.

The idea practiced in Baltimore makes chassis lubrication as simple and convenient as oil or gasoline service. The motorist merely drives in and announces his desire to have his automobile greased and in little more time than is required for oil and gasoline filling the chassis of his car will be completely lubricated.

It is shown that there are from 20 to 50 points on every car that require lubrication at regular 500-mile intervals. Neglect of this attention, it is said, causes 80 per cent of all repairs on moving parts. Popularity of this idea already established indicates that the principle will be adopted in widespread territory.

This adds substantially to the already large number of outlets for the products of the Bassick-Alemite Corp. The Company is operating its plants on a 24-hour daily schedule and at the season where a slackening demand might normally be felt, capacity operations are being maintained. Expansion of present plant facilities is under consideration by officials.

The Company has just completed the equipment of all of the plants of the United States Steel Corp. with the Alemite system and negotiations are under way for contracts to install lubrication systems in other steel plants.

Goodyear-Zeppelin to Organize

A subsidiary of the Goodyear Tire and Rubber Co., known as the Goodyear Zeppelin Corp., will be organized to make lighter-than-air craft at the Akron plants and Wingfoot Lake. The Zeppelin Co. in Germany will receive minority interest in the new company in exchange for its patent rights and technical staff.

Families Owning Two Cars Increase

According to a survey made by the National Automobile Chamber of Commerce, families owning two cars are increasing. In 12 out of 1,000 letters from motorists received by this organization, the owners stated that they had more than one automobile.

ERSKINE SCOFFS AT "SATURATION POINT"

Tells Convention of Bankers at South Bend Plant That it Is Nonsense—Time Sales Studied at First Hand—Records Show Payments Are Prompt.

"It is a fact that more nonsense has been written about the 'saturation point' than on almost any other subject related to the automobile industry," declared A. R. Erskine, president of the Studebaker Corp., talking to a delegation of some 65 prominent bankers who last week visited the Studebaker plants at South Bend, Ind. "I wish that for once and for all the public could see it for the bugaboo it is.

"The saturation point in the supplying of any article used by society will be reached, as one would say in the language of a banker, 'if, as, and when' (1) population ceases to increase, (2) wealth distribution remains fixed and, (3) the article is indestructible. Overproduction can and, under human frailty, does occur; or shall we call it underconsumption? However, curtailment cures overproduction in the automobile industry."

Erskine said a lot more to the bankers, who spent two busy days in South Bend as the guests of himself and Arthur J. Morris, head of the Industrial Finance Corp. of New York, which acts as banker to Studebaker dealers in the financing of deferred payment sales of cars. Much of their time was given over to a first hand study of the finance company's methods of handling this class of business.

They were frankly surprised when they were shown that installment payments on motor cars were met more promptly than any other class of installment business. In fact Arthur J. Morris, speaking for the finance company, said figures gathered by him indicated that over 99 per cent of all such payments were met promptly or not later than 30 days and that his company's experience with this class of business compared most favorably with other industrial banking.

The lowest possible cost to the deferred payment buyer of a Studebaker car is the aim of the Industrial Finance Corporation's system. By specializing only in Studebaker, by nationalizing the risks and by standardizing the procedure, the Corporation enables any Studebaker dealer to offer his customer the lowest possible terms. This also applies to the Corporation when it finances purchases by the dealer from the factory, thus rendering the Studebaker dealers a complete service "from the factory to the consumer."

Another important point brought out by a discussion of the Industrial Finance plan is that the dealer's needs from his local bankers are substantially relieved although this relationship is not disturbed,

because the Industrial Finance Corporation gives the dealer a local service by dealing with him through his bank. Also, the credit judgment of the dealer is developed and while he is able to offer good service, he retains his initiative.

Two of the outstanding points made by Erskine in his address to the group at a dinner tendered the party by him at the Hotel Oliver were: "Counting in the tire industry and the manufacturer of accessories the automobile now leads American industry. And many manufacturers believe the peak is yet to be reached, judging by the continuing ex-

TABLE TOPICS

In some of the lines listed on AUTOMOBILE TOPICS' Table of Passenger Car Selling Points the sedans have a slightly longer wheelbase than the open models. In some cases they are geared differently or in some other way vary slightly from the open car specifications.

These differences, however, are not radical enough to constitute a new series and are not considered as such by the manufacturers. In order to preserve the concise form of the Table, AUTOMOBILE TOPICS lists chassis specifications using as a basis the touring model. Such slight differences as mentioned above are, therefore, not shown.

The Table for this week appears on pages 63-5.

pansion of manufacturing facilities. Within a short time there will be manufacturing capacity for at least four and a quarter million cars.

"Obviously a considerable degree of competition lies ahead of us. It is important, however, to realize what competition means in the automobile industry. Most commentators think of it as competition strictly on a price basis. That is they assume that automobiles are sold like any staple product such as grain, cotton, wool, rubber or other commodities. But the cases are quite different. An automobile is not marketed as a staple. It has a style appeal, an appeal through line, color or other distinctive feature. In marketing an automobile one gets into the realm of proprietary things. Price is just one of several elements in its appeal to the consumer. I can conceive of a situation when the most extreme conditions of competition might prevail, and yet certain well handled companies might go through such a period with the largest earnings in their history."

Longer Wheelbase on New GMC Truck

A new one-ton model with 150-inch wheelbase has been added to the standard production of the General Motors Truck Co. of Pontiac, Mich. The new truck is otherwise the same as the standard one-ton model but will cost \$275 more, its list price being \$1,570.

N. T. D. A. CONVENTION DISCUSSES PROBLEMS

Several Hundred Attend Meetings at Hotel Pennsylvania—Talks Given by Analyst and Harvard Teacher—Study of Demand and Stocks Urged.

Several hundred delegates were in attendance when the annual convention of the National Tire Dealers Assn. opened at the Pennsylvania Hotel, New York city, November 13. President George E. Burger was re-elected. Walter E. Layman, president of the New York Tire Dealers' Assn., welcomed the members.

On the second day Sydney Richman, chairman of the Association, gave a summary of the agenda. He said: "We do not presume to assemble the representative tire dealers of the Country for the purpose of condemning the practices of any one branch of the industry—that would not be constructive. What we want to do is provide the tire manufacturers with an opportunity of obtaining the opinions of all classes of dealers on the practices that are of common interest to us.

"At meetings of this kind all phases of the business, as they apply to various localities, the big cities, the small towns, the villages and cross-roads, are given consideration in a broad-gauged manner that should prove of value to all of us in the tire business, the manufacturers and the dealers, and this is the aim of the convention."

During November 15, the third day of the convention, R. W. Davis of Schrader and Son, Inc., New York, gave an address on tire valves and their functions. He pointed out that his Company had always the manufacturer of tires in mind when it made its quick inflation valve.

The second address was made by Richard Lennihan, assistant director of the Bureau of Business Research of Harvard University. He explained how the school teaches pupils to wrestle with actual business problems given by active business firms throughout the Country. There are two divisions to the courses: one concerns the case system as now used in law schools, and the other deals with operating expenses of wholesale and retail firms.

W. Herman Gruel, consultant in analysis of business operations, gave the third talk. He held that dealers could obviate overstocking of their shelves if they would study consumer demand and stocks on hand at the factories. Much of the producers' errors, he claimed, could be remedied if dealers supplied their manufacturers with necessary information of local conditions. By careful study of analyses four to six months planning ahead could be made entirely possible, he said.

FISK BALANCE SHEET SHOWS FIRM'S STATUS

Sales Total \$41,800,000 for First Nine Months—Net Earnings Amount to \$3,740,000 Available for Interest—Surplus Is \$2,103,000 for the Period.

Sales of the Fisk Rubber Co., for the first nine months of the current year were \$41,800,000. Net earnings available for interest were reported at \$3,740,000, or more than three times the actual deductions for interest and financial charges for the period. After deducting all charges and setting up reserves for Federal taxes and other contingencies, the net profit carried to surplus for the nine months, amounted to \$2,103,000, bringing the surplus at the end of the period, up to \$5,631,000.

Balance sheet as of September 30, shows net tangible assets of \$40,532,379, after deducting all liabilities and reserves except \$9,000,000 first mortgage bonds outstanding at that date. The amount of net tangible assets per \$1,000 bond was \$4,504, of which more than \$2,820 was in current assets.

Current assets were reported on September 30, at \$25,380,000, compared with current liabilities of \$5,354,000. This leaves a balance of more than \$20,000,000 as working capital and a current ratio of approximately 4.7 to 1. The net current assets exceed the amount of first preferred stock outstanding by more than \$1,000,000.

YELLOW TAXI BUYS FAY

Merger Involves Transfer of 400 Cabs

Yellow Taxi Co., Inc., New York City, has bought out the interests and equipment of the Fay Taxicab Co., Inc., according to an announcement by William E. McGuirk, president of the former organization. The merger will effect a lowering of rates, McGuirk thinks.

Negotiations of the Yellow Taxi Co., Inc., were carried on with creditors of the Fay company and involve the transfer of 400 taxicabs to the Yellow service which numbers 1,700 cabs. Fay taxicabs, which have had the stand privileges at the Grand Central and the Pennsylvania Station, will be overhauled and painted the same as cabs of the Yellow company.

Motor Products to Reorganize

Stockholders of the Motor Products Corp. have approved a plan of reorganization which contemplates the exchange of common and Class B stock for a 6 percent debenture \$100 par value and one share of the preferred stock with no par value. Common stockholders will receive one share of new common stock for each share of old stock that is now held.

THE WEEK'S MOVEMENT OF AUTOMOTIVE STOCKS

Published quotations of the more active automotive securities traded on representative stock exchanges are listed below. The figures represent the high and low points respectively, as reported in those markets during the current week. They are presented for the purpose of comparative record only, as being more nearly indicative of the general market trend than the day-by-day quotations of the ordinary stock report. Unlisted as well as listed securities are included wherever possible, as follows:

NEW YORK		High	Low			High	Low
Advance Rumely, common	.....	7½	6½	U. S. Rubber, preferred	.....	86½	82
Advance Rumely, preferred	.....	27	23½	Westinghouse Electric & Mfg.	.....	59½	58½
Ajax Rubber	.....	6½	5½	White Motors	.....	52	50½
Allis-Chalmers, common	.....	42½	40½	Willys-Overland, common	.....	8	7½
Allis-Chalmers, preferred	.....	92	90	Willys-Overland, preferred	.....	73	72½
American Bosch Magneto	.....	33	28½	CLEVELAND			
Case (J. I.) T. M., preferred	.....	68½	65	Bishop & Babcock	.....	11½	9½
Chandler Motor	.....	52½	50½	Dow Chemical, common	.....	45	45
Chicago Pneumatic Tool	.....	81½	80	Dow Chemical, preferred	.....	92½	92½
Cleveland Motors	.....	22	22	Firestone, common	.....	72	63
Continental Motors	.....	7	6½	Firestone, preferred (6)	.....	89	85½
Durant Motors, common	.....	31	29	Firestone, preferred (7)	.....	87½	85½
Durant Motors of Indiana	.....	8½	8	Jordan Motors, common	.....	250	200
Eaton Axle & Spring Co.	.....	23	22½	Jordan Motors, preferred	.....	89	89
Fisher Body, common	.....	175	160	Miller Rubber, common	.....	62	60
Fisher Ohio Body, preferred	.....	98½	97½	Miller Rubber, preferred	.....	92	87
Fisk Rubber	.....	7½	6½	F. B. Stearns	.....	17	16
Gardner Motors	.....	7½	6	W-S-M, preferred	.....	50	45
General Electric, common	.....	183½	180	Winton, preferred	.....	25	17
General Electric, special	.....	10½	10½	DETROIT			
General Motors, common	.....	14½	14½	Auto Body	.....	2	1
General Motors, 6% deb.	.....	83½	81	Bower Roller Bearing	.....	9	8½
General Motors, 7% deb.	.....	98½	96	Charcoal Iron, common	.....	1	¾
Glidden Co.	.....	7	6	Charcoal Iron, preferred	.....	1½	1½
B. F. Goodrich, common	.....	20½	19	Columbia Motors	.....	1¾	1
B. F. Goodrich, preferred	.....	78	75	Edmund & Jones	.....	36	35
Goodyear, preferred	.....	45	40	Federal Truck	.....	19½	19½
Goodyear, prior preferred	.....	92½	91	Ford of Canada	.....	400	393
Gray & Davis	.....	8¾	7¾	General Al. & Brass	.....	6½	6¼
Hayes Wheel	.....	37	36½	Hall Lamp Co.	.....	26	24½
Hudson Motors	.....	26	25	Motor Products	.....	157	154
Hupp Motor Car	.....	21½	19½	Murray Mfg.	.....	19	17¾
International Harvester	.....	78½	74	Packard Motor, preferred	.....	95	93½
*Kelly-Springfield Tire, common	.....	26	24½	Paige-Detroit Motor Car	.....	22	19¾
Lee Rubber & Tire	.....	13½	12½	Timken Axle, common	.....	7½	6½
Mack Trucks, common	.....	81½	80	Truscon Steel, preferred	.....	9½	2
Mack Trucks, preferred	.....	94	91½	AKRON			
Marlin-Rockwell	.....	4	2	American R. & T., common	.....	8	8
Martin-Parry	.....	33	29½	American R. & T., preferred	.....	30	30
Maxwell Motors, class A	.....	54½	56½	Amazon Rubber	.....	3	2
Maxwell Motors, class B	.....	17	13½	Goodyear, pr, preferred	.....	45	36
Moon Motors	.....	23½	22½	India Rubber, common	.....	72	68
Mullins Body	.....	15	12	India Rubber, preferred	.....	85	75
Nash Motors	.....	97	90	Marathon Rubber, common	.....	2½	2½
Packard Motor Car	.....	12	11½	Mason T. & R., common	.....	1½	1½
Parish & Bingham	.....	11½	10½	Mason T. & R., preferred	.....	17	15½
Peerless T. & M.	.....	33	27½	Mohawk Rubber, common	.....	8	5
Pierce Arrow, common	.....	9½	9	Mohawk Rubber, preferred	.....	35	35
Pierce Arrow, preferred	.....	22	21	Seiberling Rubber, common	.....	6	5
Reo Motors	.....	17½	16½	Seiberling Rubber, preferred	.....	45	35
Reynolds Spring	.....	22	19½	Swinehart T. & R., preferred	.....	21	21
Spicer Mfg.	.....	15½	13				
Stewart Warner Speedometer	.....	88	86½				
Stromberg Carburetor	.....	81	74½				
Studebaker, common	.....	105	102½				
Stutz Motor	.....	11½	11½				
Timken Roller Bearing	.....	39	38½				
U. S. Light & Heat	.....	1½	.75				
U. S. Rubber, common	.....	36½	34½				

*\$25. † \$50.

Ford Production Still High

Production of the Ford Motor Co. for the week ended November 12, was 39,177 cars and trucks, 1,803 Fordson tractors and 115 Lincoln cars. This compares with 39,793 cars and trucks, 1,808 tractors and 182 Lincolns during the preceding week. Reduced output was due to Armistice Day being observed in several of the assembling plants.

Haynes Plans Refinancing

Haynes Automobile Co., Kokomo, Ind., is to offer for sale to the public \$1,000,000 of bonds, as part of its entire reorganization, according to Elwood Haynes, president. In addition to this \$500,000 will be subscribed for by officers and directors of the Company. The proceeds of the sale are to be used to increase production and to improve the Company's financial position. Plans

have been formally approved and will go into effect immediately.

Spicer Mfg. Corp. Profits Increase

Spicer Manufacturing Corp. showed profits of \$1,244,698 for the first nine months of this year as compared with \$1,134,533 for the corresponding period last year. Balance for the 313,750 shares of no par value common stock was equivalent to \$2.89 a share against \$2.58 a share in the first nine months of the preceding year.

Delaware Corporations

Twelve concerns in the automobile industry were organized in Delaware during the month of October. The list comprises three manufacturers, seven parts makers, and two accessory organizations.

AMERICAN-LAFRANCE ADDS TRUCK TO LINE

New Two-and-One-Half-Ton Commercial Truck Goes into Production—Has Factory Branch in Los Angeles—Dealer Body Is Increased.

American-LaFrance Fire Engine Co. has just gone into the production of a two-and-one-half-ton commercial truck. This is in addition to the three-and-one-half and five-ton models that have been on the market since early this year. It is expected that a one-ton truck will be added to the line within the near future.

The facilities of existing factory branches in New York, Chicago, Boston, Philadelphia and Pittsburgh have been extended to accommodate the servicing of the Company's trucks in those cities. A new branch will shortly be established in Los Angeles, according to officials of the Company. A limited number of dealerships have also been established. These will be increased as sales demand justifies.

Sales of the Company's products have measured up to expectations since it entered the commercial truck field, particularly in New York and Boston where branches have been in existence since the early part of the current year. While the Company's production is as yet limited, it is firmly believed by officials that there are excellent prospects for sales during the next year, and plans are being made accordingly.

Yellow Taxi to Issue New Shares

Yellow Taxi Corp., as soon as stockholders ratify the directors' plan November 23, will increase the capital stock from 100,000 shares to 400,000 shares. Of the 300,000 shares of new stock 250,000 will be offered for subscription to the present stockholders in the ratio of 2½ new shares for each share held. Remaining shares will be set aside for acquiring stock of Yellow Cab Co. of Philadelphia and meeting future needs.

Indiana Car Makers to Reorganize

It is proposed to reorganize the automobile and accessory manufacturers of Indiana and call the new body the Indiana Automotive Manufacturers' Assn. Lon Smith, who spoke on the subject at the meeting of the Indiana section of the Society of Automotive Engineers at the Hotel Severin on November 10, has received many indorsements to the plan from those in the industry in that State.

Newark Trolley-Bus Merger Likely

Consolidation of the Newark trolley system and buses is the logical outcome of the street car strike last Summer, during which buses took care of the public's needs on a five-cent basis. Thomas N. McCarter, president of the Public Service Railway Co., which operates in the

Newark territory, in a published statement, now concedes the necessity of consolidation. The trolleys have lowered their fares from eight cents to five cents since the strike.

SERVICE MOTORS SELLS RAIL DIVISION TO BRILL

Truck Company Will Continue to Make Trucks for Coaches

Service Motors, Inc., of Wabash, Indiana, has sold its railroad motor coach division to the J. G. Brill Co. of Philadelphia, manufacturer of street cars. Increased sales through the activity of the eastern firm will benefit the Indiana concern materially, it is thought. The change will not stop the Service company from filling mechanical parts orders totaling \$300,000 for the railway motor coaches. Company will also continue to manufacture trucks for the coaches.

As a result of the sale the engineering and sales departments of Service Motors, Inc., will be moved to Philadelphia. Charles Guernsey, vice-president of the truck company and general manager of the rail coach division, will fill a similar position with the Brill company. A. F. McCormick will become district manager for the eastern firm.

Record Earnings Made This Year

Aggregate sales value of automobile motors shipped by Continental Motors Corp. in its fiscal year ended October 31 was 21-7 times as large as best previous year in its history, which was 1920. Earnings are estimated to have been slightly less than \$2,000,000 compared with \$1,469,940 for fiscal year ended October 31, 1922.

Black and Decker Reduces Prices

Effective November 12, Black and Decker Mfg. Co. reduced its half-inch special portable electric drill to \$58.00, which is a reduction of \$30.00 since this time last year. Company also reduced price of its electric valve grinder from \$45.00 to \$34.00.

DIVIDENDS DECLARED

B. F. Goodrich Co.—Regular quarterly dividend of 1¼% on preferred stock; payable January 2, 1923, to stockholders of record December 22, 1922.
Hayes Wheel Co.—Regular quarterly dividend of 75 cents; payable December 15, 1923, to stockholders of record November 30, 1922.

Martin-Parry Corp.—Regular quarterly dividend of 75 cents on the common stock; payable December 1, 1923, to stockholders of record November 15, 1922.

Packard Motor Car Co.—Regular quarterly dividend of 1¼% on the common stock; payable December 15, 1923, to stockholders of record November 30, 1922.

Reynolds Spring Co.—Regular quarterly dividends of 1¼% on the preferred "A" and "B" stock; payable January 1, 1923, to stockholders of record December 17, 1922.

Studebaker Corp.—Regular quarterly dividend of \$2.50 on the common stock; payable December 1, 1923, to stockholders of record November 10, 1922.

Timken-Detroit Axle Co.—Regular quarterly dividend of 1¼% on the preferred stock; payable December 1, 1923, to stockholders of record November 20, 1922.

FEDERAL TAX RULING RELATES TO USED CAR

Dealers Receiving Used Cars as Part Payment May Value Them at Selling Price Less Selling Cost—Limit of Price Is 30 Days After Inventory.

Of importance to automobile dealers is the Federal income tax ruling just released by the Committee on Appeals and Review of the Income Tax Department. By this ruling, automobile dealers who receive used cars in part payment for their new cars, may value the used cars at selling price less the cost of selling in their closing inventories, even though the remainder of their inventories are based on cost or market; the lower figure may be used.

"In the particular case which the Department had before it," said M. L. Seidman, C. P. A., a New York tax expert, "a company conducting an automobile agency received used cars in a large percentage of its sales of new cars. Often it allowed more for the used car than it expected to realize upon a subsequent sale of the car. The new car was entered on the books at the list price and the used car was first entered on the books at an amount which represented the difference between the list price of the new car and the cash received. Later the old car was examined and its selling price fixed; adjustment was then made between the selling price and the amount that the used car was originally valued at."

The Income Tax Department held that the practice of the dealer, who included the used car at selling price less the cost of selling in his closing inventory, was legitimate. Selling price has been defined as the price at which the goods are actually offered for sale during a period ending no later than 30 days after the inventory period.

White Oil Corp. May Sell Out

Stockholders of the White Oil Corp., of New York, will attend a special meeting November 20, when they will vote on the proposal to sell the property and assets of the Company to a new corporation forming in Delaware. A special meeting was held November 16 to vote on an amendment to the certificate of incorporation of the White Oil Corp. to permit the sale of its property and assets.

Automobiles Force Out Trolleys

Farmer ownership of automobiles along the lines of the Pennsylvania and New Jersey Street Railway Co., which operates between Bristol and Doylestown in Pennsylvania, has forced the trolley out of business. The abandonment of the enterprise has been approved by the Pennsylvania Public Service Commission.

NEW LOW AVERAGE IN "GAS" PRICE REACHED

Gulf Refining and Standard of Indiana Make Substantial Cuts in Widespread Territory—Money Urgently Needed by Refiners—Storage Capacity Looms.

Average tank-wagon price of gasoline in 30 representative cities has established the new low record for this year of 12.69 cents per gallon. This was brought about by further reductions of one cent a gallon by the Gulf Refining Co. in the East and two cents by the Standard Oil Co. of

COURSE OF GASOLINE PRICES

Tank-wagon Prices in 30 Cities Compared With Former Figures

	Present	High, 1923	High, 1922
Atlanta, Ga.	13.0	23.0	27.0
Baltimore, Md.	15.5	23.5	26.0
Birmingham, Ala.	16.0	21.5	24.0
Boston, Mass.	14.5	24.5	27.0
Butte, Mont.	19.0	24.5	27.5
Chicago, Ill.	12.0	20.0	23.0
Cleveland, O.	15.0	21.0	23.0
Dallas, Tex.	7.0	18.0	23.0
Denver, Col.	13.0	21.0	26.0
Des Moines, Ia.	10.5	21.1	24.4
Detroit, Mich.	10.8	21.4	22.4
Houston, Tex.	13.0	18.0	23.0
Indianapolis, Ind.	11.2	20.8	23.8
Kansas City, Mo.	9.9	19.5	21.5
Louisville, Ky.	15.0	22.0	24.0
Los Angeles, Cal.	13.0	17.0	24.5
Memphis, Tenn.	13.0	19.0	24.5
Minneapolis, Minn.	10.9	21.5	24.7
Milwaukee, Wis.	12.0	20.6	23.7
Newark, N. J.	15.5	23.5	26.0
New Orleans, La.	13.5	19.5	24.5
New York, N. Y.	15.5	24.5	27.0
Omaha, Neb.	11.9	20.5	23.0
Philadelphia, Pa.	15.0	23.0	26.0
St. Louis, Mo.	9.1	20.5	23.2
St. Paul, Minn.	10.9	21.5	24.2
San Francisco, Cal.	9.0	17.0	21.0
Seattle, Wash.	11.0	19.0	23.0
Tulsa, Okla.	10.0	20.0	24.0
Wilmington, Del.	15.0	23.0	26.0
Average	12.69	21.11	24.4

*Service station price of Standard Oil of California.

Indiana, in the 14 states in which it distributes its products.

This decrease amounts to 3.12 cents since September 18; 6.39 cents since July 30, and a total reduction of 8.42 cents a gallon from the high of 1923. Refiners, it is said, are confronted with gasoline in storage nearing capacity at the beginning of the storing season. They are making every effort to convert their products into cash in face of lessened demand, in order to avoid the necessity of financing.

Many independents are said to be selling gasoline at a loss to get money which is urgently needed. It is described as the only way that certain of the smaller organizations can get money under current conditions. Some of the companies hope to avoid issuing additional securities and are offering gasoline at attractive prices to liquidate current indebtednesses.

Soss to Have Private Exhibit

Soss Mfg. Co. will exhibit a complete line of Soss automobile body hardware, in-

cluding many new types of hinges which have lately been added, during Automobile Show Week, January 5 to 12, in New York city. The Company will have a private exhibit at Room 1117, Commodore Hotel. Body engineers and purchasing agents have all been invited to view this exhibition.

200 VISITORS ENTERTAINED AT ANNUAL SPARTON PARTY

Michigan-Marine Game Attended by Jobbers as Captain Sparks' Guests

Approximately 200 visitors were entertained at the third annual Sparton Party held in Jackson, Mich., November 10, by the Sparks-Withington Co. The jobber guests arrived in Jackson early in the morning and were shown through the plant. This was followed by a luncheon there. In the afternoon they took a special Michigan Central train to Ann Arbor where the University of Michigan-Marine football game was witnessed at Ferry Field.

Dinner was given in the evening at the Jackson City Club at which Captain Sparks acted as chairman. Colonel Withington gave a short talk. Rev. D. D. Spence, pastor of Captain Sparks' church, spoke briefly. Prizes were then distributed to salesmen selling the most Sparton horns during the year. The party left on a special train that night for Chicago to attend the A. E. A. convention.

GIVES AID ON LIGHTING

Edison Lamp Works Issues More Data

Under the titles, "Lighting for Traffic Control," and "Lighting Legislation," the Edison Lamp Works of the General Electric Co. has issued two revised pamphlets dealing with problems of specific interest to the automobile industry. The study of traffic control lighting covers the three phases of land, water and air requirements, about one-third of the thirty-page pamphlet being devoted to street traffic and covering manually controlled signals, automatic signals and traffic guides.

Under the general discussion of legislation affecting lighting various codes are taken up in detail. Separate chapters are devoted to automobile headlight and tail-light regulations. Copies of the bulletins may be had upon application to the Company at Harrison, N. J.

Store Solves Parking Problem

Woodward and Lathrop, a Washington, D. C. department store, accommodates its patrons who cannot park their cars near the store by running a bus carrying patrons back and forth between the store and available parking spaces. The route and regular stops have been widely advertised in several Washington newspapers.

BRAKE-LINING HEADS TO MEET AT CAPITAL

Will Inspect Bureau of Standards Innovations—S. A. E. Discusses Testing Machines—Brake Inspection Movement Progressing.

Representatives of the entire brake lining industry will visit the Bureau of Standards at Washington, on November 21 to hear addresses, inspect new apparatus, and discuss matters of mutual interest. The Government will demonstrate several innovations in connection with the brake situation. Addresses are scheduled from G. K. Burgess, director of the Bureau; S. von Ammon, mechanical engineer, and W. S. James, physicist.

At a meeting last month of the Brake-Lining Subdivision of the Standards Committee of the Society of Automotive Engineers, a brake-lining testing-machine was discussed. This machine is similar to one being developed at the Bureau of Standards in Washington.

Great interest in brake-lining from a safety viewpoint has been aroused in the Country by the national brake inspection movement sponsored by the Asbestos Brake Lining Assn. It is part of the campaign to distribute circulars and safety information to automobile dealers and owners.

Instructions of the Association for testing automobile brakes on public highways are being used throughout the Country. A case in point is the recent convention of the National Safety Council in Buffalo, New York, where over 3,500 delegates watched the police test brakes daily in front of the Hotel Statler, where the congress was held.

Keaton Tire Handling Hayes Wheels

California distribution for the products of the Hayes Wheel Co. has been taken over by the Keaton Tire and Rubber Co., of San Francisco. The entire sales and service of the line is included in the arrangement, and the Keaton company will carry a large stock of wire, wood and disc wheels as well as rims and parts. The Hayes branch, heretofore maintained on the Coast, will be replaced by a district office, with J. M. Kerr, formerly in charge of the branch, remaining in full charge.

Rural Sales Increase

"Most cars in 1924 will be sold in towns where horses used to be hitched," predicted an Illinois Buick dealer who has been visiting the Buick factory at Flint. Buick officials not only credit this prophecy, but declare that rural sales at the present time are showing a very marked increase over sales of the last few years.

RIM REPORT SHOWS SEASONAL PICK-UP

**October Production Totals 1,970,316—
Gain Over September and Same Month
of Last Year Shown—Over Half of
Output in Popular 30 x 3½ Size.**

Figures submitted by the Tire and Rim Assn. of America, show a seasonal pick-up in the industry. The total number of rims passed during the month of October was 1,970,316 which compares with 1,585,547 in September and is higher than August.

In the popular 30 x 3½ size, 1,172,903 rims, or 59.4 per cent of the total were produced. While this size has taken more than half the production (clincher and straight side types combined) for some time past, the percentage has been dropping somewhat. In the corresponding month of 1922 it represented 71.9 per cent and in September of this year 62 per cent. Some of the larger sizes show a considerable gain over last year. The 32 x 6 size, for example, numbered 1,904 in October against 10 in the same month of 1922.

In the following table is shown the comparison in number between the last three months of this year and the corresponding months of 1922:

	1923	1922
August	1,855,744	1,732,655
September	1,585,547	1,173,987
October	1,970,316	1,476,276

Dealers Report Good Business

Autumn business for the Goldsboro Garage and Motor Transport Co., (Cadillac) Goldsboro, N. C., has increased as the result of additional sales effort being exerted, the Company reports. Sales during the forthcoming months are not

expected by officials to increase further. Fifty per cent of the Company's business is in closed cars and 90 per cent involves trades. Current sales are holding up for the Triangle Motor Sales Co., Greenville, Mich. Closed cars represent about 75 per cent of the total business, with 10 per cent free from used car dealing.

UNITED GARAGE CHAIN IS ORGANIZED IN CHICAGO

Will Complete System of Garages from Coast to Coast

United Garage Chain of America, a new association, was formed this week at a meeting held in the Hotel LaSalle, Chicago. The purpose of the new organization is to organize a chain of tourist garages extending from coast-to-coast and from Canada-to-Mexico. These will offer tourists every service while en route, making hotel reservations and distributing road maps.

Membership ultimately, it is expected, will be about 3,600. Members will be taken in by application only. Present strength is approximately 50 members. Headquarters are in Chicago. Officers are: J. C. Dorman, Gary, president; John Dyer, Vincennes, first vice-president; Joseph E. Bosler, Louisville, second vice-president; W. J. McGinnis, Green Bay, third vice-president; C. B. Stickney, Chicago, secretary; C. A. Vaden, Wheeling, W. Va., treasurer, and Tom C. Polk, executive secretary.

Keystone "Gas" Tax Nets \$1,539,560

From August 1, to November 1, 1923, Pennsylvania realized \$1,539,560 as the result of its two-cent-a-gallon tax on gasoline. Present retail prices are from 16 cents to 19 cents a gallon, plus tax.

MOTOR CAR EXPORTS GAIN IN SEPTEMBER

Value of Exports Above August Total and September Last Year—Australia Best Market—Canada a Good Second Buyer of Cars and Trucks.

Automobile exports from the United States registered a gain of almost \$2,250,000 in September over the preceding month, according to statistics of the Department of Commerce. Actual values were \$12,607,636 for August and \$14,828,053 in September.

As compared with exports of September

SEPTEMBER FOREIGN TRADE

	Quantities		Value	
	1923	1922	1923	1922
Exports—				
Cars	10,466	5,862	7,585,570	4,371,896
Trucks	1,225	1,295	942,464	763,819
Parts* .....	.....	.....	6,300,019	4,673,675
Total	11,691	7,157	14,828,053	9,809,390
Imports—				
Cars	67	26	38,924	27,443
Rubber	25,902,645	44,344,862	6,509,319	6,202,136

*Including engines and tires.

ber, 1922, which were \$9,809,390, totals for this September were \$5,018,663 better. Vehicles shipped abroad during the month this year were 10,466 cars and 1,225 trucks. This compares with 8,411 cars and 1,646 trucks sent out in August.

Australia continues to be the best cus-

LIFTS AND LIGHTS 'EM

Splitdorf "Cig-A-Lite" Hands Out Smokes

Cigarette smokers have been given a new interest in life by the Splitdorf Electrical Co., which is putting on the market a brand new device that not only keeps a pack of the favorite brand within handy reach on the dash or in the tonneau, but when gently stimulated by touching a lever presents one freshly lighted.

Primarily, it is a container capable of holding 15 cigarettes of standard size. Depressing a lever releases one smoke, which falls into a rack opposite an electric lighter at one end and a suction tube connected with the vacuum line or engine manifold on the other. Touching a second lever lights the cigarette, which may then be picked up by the smoker, who in the meantime has used but one hand and need not have removed his eyes from the road.

Jersey Car Licenses Out December 1

Motorists of New Jersey will be able to secure their registration cards and licenses beginning December 1, 1923. Those failing to obtain their plates and licenses by December 31 will be prohibited from operating their cars on and after January 1, 1924.

TIRE & RIM ASSOCIATION INSPECTION STATISTICS

Size	October, 1923		September, 1923		October, 1922	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
26 x 3	4,570	0.2	.....	...	2,000	0.1
28 x 3	5,149	0.2	.....	...	5,135	0.3
30 x 3	107,417	5.4	65,410	4.4	49,902	3.3
27 x 3½	6,991	0.3	3,648	0.2	.....	...
30 x 3½	905,695	45.9	793,214	50.1	819,225	55.5
30 x 3½	267,208	13.5	188,266	11.9	94,993	6.4
32 x 3½	21,951	1.1	8,608	0.5	13,175	0.9
28 x 4	2,829	0.1	1,053	0.1	199	0.0
30 x 4	41	0.0	.....	...	.....	...
31 x 4	172,128	8.7	160,179	10.2	.....	...
31 x 4	342	0.0	9,057	0.6	.....	...
32 x 4	270,375	13.7	186,545	11.8	286,473	19.4
33 x 4	18,248	0.9	15,239	1.0	27,662	1.8
34 x 4	3,714	0.1	578	0.0	2,004	0.1
29 x 4½	6,228	0.3	10,925	0.7	1,612	0.1
30 x 4½	45	0.0	.....	...	.....	...
31 x 4½	42	0.0	.....	...	.....	...
32 x 4½	134,803	6.8	94,330	6.0	100,331	6.7
33 x 4½	530	0.0	.....	...	14,900	1.0
34 x 4½	17,716	0.9	34,129	2.2	38,554	2.6
36 x 4½	879	0.0	1,347	0.1	4,151	0.2
30 x 5	335	0.0	877	0.1	62	0.0
34 x 5	16,876	0.8	10,093	0.7	12,848	0.8
32 x 6	1,904	0.0	692	0.0	10	0.0
36 x 6	1,116	0.0	1,044	0.1	223	0.0
34 x 7	318	0.0	124	0.0	.....	...
38 x 7	1,225	0.0	.....	...	2,667	0.1
36 x 8	259	0.0	.....	...	.....	...
40 x 8	1,382	0.0	190	0.0	150	0.0

*Clincher

tomer of the United States for both passenger cars and trucks, and this September bought passenger cars valued at \$1,980,055 and trucks worth \$172,733. Belgium, however, bought a greater number of truck units, 236, as against Australia's 126 units. Cost of Belgium's trucks amounted to \$58,537.

Next after Australia came Canada in volume of buying with passenger cars

worth \$1,140,346 and trucks worth \$115,249. This represents 1,428 passenger car units and only 79 truck units.

Third on the list of America's best truck customers in September was Japan, which bought 64 units worth \$90,823. The previous month Japan was also third on the truck list.

Spain and Argentina were third and fourth best markets for passenger cars

buying 884 units worth \$695,857 and 593 units worth \$405,101 respectively. The previous month this order was reversed.

For nine months ending September 30, passenger cars valued at \$66,583,027 and trucks totaling \$10,175,846 were exported from the United States. This compares with passenger cars of \$37,032,135 and trucks of \$6,013,700 exported in the corresponding period of last year.

FOREIGN AUTOMOTIVE COMMERCE OF THE UNITED STATES FOR SEPTEMBER

	September				Nine Months Ending September			
	1922		1923		1922		1923	
AUTOMOBILES AND PARTS OF—	Quantity	Value Dollars	Quantity	Value Dollars	Quantity	Value Dollars	Quantity	Value Dollars
Commercial								
Exported to—								
Belgium	460	106,557	236	58,537	1,821	478,580	3,963	969,726
Netherlands .....	.....	.....	.....	.....	85	46,478	29	13,341
Norway .....	.....	.....	3	5,100	227	82,141	579	200,159
Spain	20	4,687	4	4,600	134	46,441	1,023	257,383
Sweden	6	7,850	9	10,371	371	115,145	1,721	578,483
United Kingdom	57	42,315	94	71,317	296	287,549	686	510,985
Canada	106	128,662	79	115,249	1,077	1,596,016	1,164	1,598,824
Mexico	55	43,093	115	67,092	810	504,777	799	488,986
British West Indies	12	15,118	33	15,548	174	150,362	272	152,459
Cuba	62	18,213	52	22,023	216	108,621	567	234,355
Argentina	2	4,729	39	49,290	19	33,449	136	192,312
Brazil .....	.....	.....	.....	.....	65	81,487	26	6,294
Other South America	42	20,308	194	94,370	293	182,448	1,246	652,604
British East Indies	9	11,197	13	16,055	100	129,289	144	169,680
China	1	2,810	7	10,136	42	37,471	155	90,578
Japan	253	156,707	64	90,823	862	612,378	1,305	662,234
Philippine Islands .....	.....	.....	.....	.....	7	9,622	221	99,666
Australia	117	100,597	126	172,733	684	775,609	1,566	1,868,692
British Africa	16	28,157	47	43,719	111	143,141	347	325,792
Other Countries	77	72,819	110	95,501	688	592,696	1,607	1,103,293
Total motor trucks and busses (number)	1,295	763,819	1,225	942,464	8,080	6,013,700	17,556	10,175,846
Passenger—								
Exported to—								
Belgium	345	103,408	562	220,614	3,329	1,306,186	4,352	2,033,008
Denmark	27	21,918	101	80,719	390	315,010	1,628	1,148,045
France	11	14,012	6	6,044	336	360,258	262	271,007
Netherlands	76	65,684	80	81,675	585	547,445	1,284	1,092,751
Norway	28	24,034	29	23,307	1,130	458,155	2,983	1,472,214
Spain	250	221,339	884	695,857	1,412	1,277,583	5,499	3,841,912
Sweden	89	84,246	283	217,845	2,632	1,473,745	6,209	3,654,368
Switzerland	14	17,477	6	9,562	217	264,626	372	352,046
United Kingdom	509	291,607	302	236,845	3,645	2,732,780	6,601	4,153,084
Canada	572	640,520	1,428	1,140,346	8,661	8,913,177	9,395	8,624,754
Central America	25	28,210	67	54,653	229	209,010	497	434,852
Mexico	792	475,476	500	271,980	5,337	3,380,421	5,865	3,239,484
Cuba	209	136,578	387	223,084	1,076	858,902	4,188	2,101,742
Argentina	190	177,129	593	405,101	1,275	1,292,288	3,991	3,253,213
Brazil	296	204,410	103	100,520	1,130	949,219	1,632	1,449,444
Colombia	17	10,408	32	24,189	91	61,528	279	207,724
Other South America	113	93,901	556	295,269	756	558,833	3,466	2,109,757
British India	118	84,494	259	175,894	807	651,348	1,330	908,785
China	20	23,338	75	73,238	431	358,128	549	447,664
Dutch East Indies	46	40,036	93	89,995	363	354,877	1,080	839,684
Japan	101	49,385	116	109,649	890	530,465	2,241	1,201,064
Palestine and Syria	189	100,513	29	29,542	813	448,500	695	384,934
Philippine Islands	13	11,300	53	64,677	345	278,508	986	747,898
Australia	1,033	861,776	2,595	1,980,055	7,371	5,561,319	16,938	13,028,534
New Zealand	201	175,377	242	231,763	983	845,094	3,187	2,763,273
British South America	229	196,608	356	310,702	1,357	1,252,166	3,389	2,944,310
Other British Africa	17	14,983	35	25,340	154	138,302	329	228,076
Egypt	32	14,911	19	9,720	334	153,513	159	93,561
Other countries	300	188,818	675	388,385	2,249	1,500,751	6,249	3,555,839
Total passenger cars (number)	5,862	4,371,896	10,466	7,585,570	48,328	37,032,135	95,635	66,583,027
Parts of, except engines and tires (pounds)	14,548,730	3,226,814	.....	.....	119,414,114	28,410,322	.....	.....
Automobile unit assemblies (pounds) .....	.....	.....	1,166,326	189,657	.....	.....	22,897,581	3,627,339
Parts and accessories (pounds) .....	.....	.....	21,272,090	5,112,467	.....	.....	177,201,039	40,701,243
Tires (number)	107,466	1,241,483	86,362	997,895	994,483	12,739,595	1,165,239	12,928,868
Automobile engines (number)	1,194	205,378	.....	.....	37,521	4,215,477	.....	.....
Total automobiles and parts of .....	.....	9,809,390	.....	14,828,053	.....	88,411,229	.....	134,016,323
AUTOMOBILES AND PARTS OF—								
Imports—								
Automobiles and chassis (number)	26	27,443	67	38,924	269	497,599	514	622,710
RUBBER, CRUDE—								
Imported from								
France	224,120	20,171	.....	.....	640,063	56,310	2,642,531	730,243
Netherlands	67,195	11,782	16,479	4,353	6,506,343	1,201,370	4,938,440	1,401,772
Portugal .....	.....	.....	53,760	6,989	1,301,592	61,146	84,777	10,354
United Kingdom	807,324	118,070	603,168	159,756	36,375,290	6,487,815	61,475,253	19,717,971
Canada .....	.....	.....	.....	.....	24,531	3,689	40,844	12,569
Central America .....	.....	.....	1,526	547	14,434	2,232	62,605	13,244
Mexico .....	.....	.....	22,400	5,600	373,256	70,819	144,182	30,193
Brazil	976,697	132,945	1,279,854	291,742	15,630,424	1,883,749	20,569,528	4,647,277
Peru	216,505	33,653	114,754	42,822	380,099	67,280	1,391,023	303,114
Other South America	5,150	990	525,710	86,573	737,609	140,003	2,039,693	489,892
British East Indies	35,011,219	4,805,058	17,093,058	4,264,652	337,591,291	51,249,627	363,217,388	96,895,047
Dutch East Indies	7,067,458	1,072,789	5,916,849	1,600,498	67,544,991	10,815,760	86,034,959	22,128,618
Other countries	29,184	6,678	275,087	45,787	3,467,003	365,477	8,937,438	2,074,669
Total unmanufactured rubber (pounds)	44,344,862	6,202,136	25,902,645	6,509,319	470,586,926	72,405,277	551,578,661	148,454,963

SAYS EUROPE NEEDS INDUSTRIAL ADVICE

H. M. Robins, of N. A. A. C. Foreign Trade Committee, Tells Conditions in Europe—American Motors Gaining Favor—Warns Against Vehicle Tax.

Need for industrial advisors to help untangle the present European situation is explained by H. M. Robins, of the foreign trade committee of the National Automobile Chamber of Commerce. Robins last month returned to the United States from an extended trip abroad. His observations were made during an extended tour of the various manufacturing centers of continental Europe.

"All countries of Europe may expect to be favorably affected by settlement of the Ruhr," he says. "A solution may be difficult to find for such a complicated problem with its divergent ramifications that affect all phases of Europe's economic life. Accordingly, in devising means for payment of reparations, it will be insufficient to consider only political and financial aspects and omit industrial phases.

"Motor transportation in Germany offers a typical illustration. If an erroneous policy of destructive taxation should be adopted in this field in attempts to secure large sums of money, immediately the productive use of motor transportation would be hampered, with resulting harm to the economic activity of the country. The hampering is a check on many other forms of wealth. For instance, suburban realty values are dependent on transportation facilities, both motor and rail. Undoubtedly general high taxes will be needed, but economists and industrial advisors should be consulted in order that such taxes will not defeat their own purposes.

"American automobiles are gaining in favor in Europe," Robins continued. "Although foreign buyers have criticized our credit terms, which are stricter than those of many other countries, and although American models for the most part are not changed in special details to meet foreign demand, it is being increasingly realized abroad that these inconveniences are more than made up for in the low price of the American product. Mass production with quick turnover in capital, which permits low prices, does not allow of special job work and long term credit.

"In Scandinavia, Holland and Belgium motor vehicle use is on the increase. It is interesting to note that advertising in Belgium is resembling the American method. There is a growing similarity between the illustrations and the kind of

copy used by automobile advertisers in Belgium and in the United States. In most of the Central European countries unsettled business conditions and excessive taxation are preventing the widespread economic use of motor transportation.

"Business conditions in England and France appear to be oppositely affected by the Ruhr situation. The lack of activity in one of the principal sections of Germany tends to reduce the purchasing power of one of the best customers of England. Unemployment does as a result are increasing and present a difficult problem for the English statesmen. In France, however, considerable prosperity exists, due principally to the greater domestic purchasing value of the franc as compared with its actual exchange value."

SAYS HIGHWAYS LAG BEHIND MOTOR NEEDS

Professor Blanchard Says One Per Cent of Highways Are Good

Highway facilities are far behind motor traffic demands and improved highway systems must be part of the national transportation policy, were the main opinions expressed by Prof. Arthur H. Blanchard of the University of Michigan, in a recent lecture at Fairmont College, Wichita, Kan., under the auspices of the National Transportation Institute. This was the second lecture of a series.

At present the potential highway transportation system of the United States, outside of cities, stands at the imposing figure of approximately 2,800,000 miles, Prof. Blanchard said, but of this total only about 12 per cent can be called "improved" and only 1 per cent is suited for heavy traffic of trucks. The 2,800,000 miles total thus shrinks to about 30,000 miles of real highway for the entire United States.

Roach-Appleton Moves Offices

Roach-Appleton Mfg. Co. of Chicago has moved its offices to 3982 Barry Ave., where it is taking 12,000 square feet. The 2446 N. Crawford Ave. branch manufactures fuse boxes, fuses and light metal stampings. Company has recently added several specialties to its line.

Buick Goes Big in California

Buick sales in California for nine months advanced by 72 per cent over last year's three-quarter period. Figures for last year were 6,039 as compared with 10,441 this year. By virtue of this rise, Buick is now third in State totals with 1,241 cars.

AUTOMOBILE INDUSTRY IN FRANCE PROSPERS

Exports Last Year Amounted to a Billion Francs—Peak Year of 1920 Will Be Surpassed—American Cars Overcome Obstacles of Duty and Exchange.

A review of French automobile exports and imports shows that the industry there is in a better condition than ever before, and that there are almost four times the number of men employed now as compared with the number in 1913. According to President de Dion of the *Chambre Syndicale de l'Automobile*, value of exports last year exceeded a billion francs, against 123,000,000 in 1913. All indications point to a surpassing of this amount this year.

In 1919 imports were four times exports, when 26,394 cars came into France, and 6,231 were shipped out. The year following the situation was almost reversed, when exports were 51,981 and imports were 14,742. This was a peak year. After the abnormal conditions of 1921, when imports almost stopped, the ratio of exports to imports has remained about three to one.

According to recent figures, the United States and Italy are the only nations that sell more cars to France than they buy from her. American firms have succeeded in exporting large quantities of cars to France despite the 45-percent *ad valorem* import duty and the fluctuating exchange.

England remains by far the best customer of France, with Belgium next. Part of the Belgium deliveries find their way overseas, according to students of the market.

Leavitt Fixes Up for New Model

J. W. Leavitt & Co., San Francisco distributor for the Oldsmobile line, made ready for the coming of the new model Oldsmobile six in more ways than one. Refinishing the interior of the store went along with the campaign to gather in prospective purchasers to look over the new cars as soon as they arrived. New decorations and upholstery made a splendid impression and demonstrated, in terms of orders, the advantages of showing a brand new product in a brand new setting.

Thirty-five Exhibitors at Show

Manufacturers' Auto Accessory Exhibit held in Chicago this week at the 131st Regiment Armory, had a total of 35 exhibitors. The show ran the entire week and displayed the wares of some of the smaller manufacturing concerns in the industry.

What car makers use four-wheel brakes? It is shown in the weekly-revised Table on pages 63-5

NEW YORK BEGINS A LONG SAFETY DRIVE

School Children to Participate in Ceremonies Daily—Bells and Whistles to Warn Motorists—Drive to End Next July With School Term.

What is characterized as the greatest traffic safety drive ever attempted in New York city was started this week and will continue until the public schools close next July. The drive is being directed by Marcus Dow, secretary of the police department bureau of public safety. The plan has for its purpose the education of motorists and pedestrians, with especial emphasis on school children, in the prevention of accidents.

This follows very closely the principles of the National Automobile Chamber of Commerce, which organization places great stress upon the importance of education. Alfred Reeves, general manager of the N. A. C. C. declares that education is the biggest factor in dealing with the present traffic situation.

Each day at 2:59 p. m. in New York city, one minute before public school children are dismissed for the day, whistles will be blown and bells rung throughout the city, to notify automobile operators that the drive is on. At the same time, children in the schools will stand at attention for one minute, thinking of accidents and means by which they may be prevented. A second minute will be used by teachers to caution the children about the dangers of carelessly crossing streets.

Display cards have been posted throughout the city instructing pedestrians and motorists how to help in the drive. All police inspectors and captains have been instructed in every detail of the operation of the drive.

According to figures that have just been issued by the conservation bureau of the insurance department of the Chamber of Commerce of the United States, about one out of every five fatal accidents during 1922 was due to the carelessness of drivers. The Chamber is now making efforts to stimulate interest among local chambers of commerce in carrying on continuous public safety campaigns.

"Each year," says a statement of the Chamber, "the number of deaths resulting from traffic accidents increase in an alarming manner. Approximately 10,000 persons lost their lives in the United States in 1919 through careless operation of automobiles. In 1920 this number had increased to slightly more than 11,000, in 1921 to 12,500 and in 1922 to more than 14,000.

"The traffic hazard, however, is only one of the causes of accidents which during 1922 killed more than 75,000 per-

sons and injured probably 2,000,000. Accidents occur daily not only in our streets and at railway crossings, but in our homes, schools, public buildings and industrial plants. It is estimated that 75 per cent of all traffic accidents are preventable.

"Chambers of Commerce throughout the Country which have engaged in this work have accomplished good results. For example, the Milwaukee Association of Commerce reduced within two years the number of lives lost in automobile accidents from twenty-five to twelve per 10,000 motor vehicles. In three years the accidental death rate in St. Louis was lowered from thirty-seven to fourteen lives per 10,000 vehicles."

This is the seventh article on traffic safety which is presented in the campaign inaugurated by AUTOMOBILE TOPICS in an effort to find a solution of the problem. Last week some of the precautionary measures taken by the London, England, police, were presented. Next week's instalment will concern the activities of the Paris police in making the streets more safe for motorists and pedestrians.

FINDS CONCRETE AND ASPHALT ROADS BEST

**City Engineer of Everett, Washington,
Tests Gasoline Consumption**

Comprehensive tests to determine the effect of different roads on gasoline consumption have been completed in California, Washington and Oregon by A. B. Cutter, city engineer of Everett, Wash. The results show that there is no difference in gasoline consumption on concrete and bitulithic asphalt roads, but that gasoline consumption is from 10 to 35 per cent greater on gravel or waterbound macadam roads in good condition. Fuel consumption is over 35 per cent greater on these latter type roads when they are in bad condition.

Cutter's findings show that upon a smooth surfaced resilient road the consumption of gasoline by 730,000 vehicles per year is 38,400 gallons per mile of road per annum. At 24 cents per gallon this represents an investment of \$9,216. Consumption of gasoline by 730,000 motor cars on gravel or waterbound macadam roads is 52,000 gallons per mile of road per annum. This represents an investment of \$12,480. The paved road, therefore, affords an annual saving of 13,600 gallons of gasoline per mile of road, or \$3,264.

Automobile Model Shows Accidents

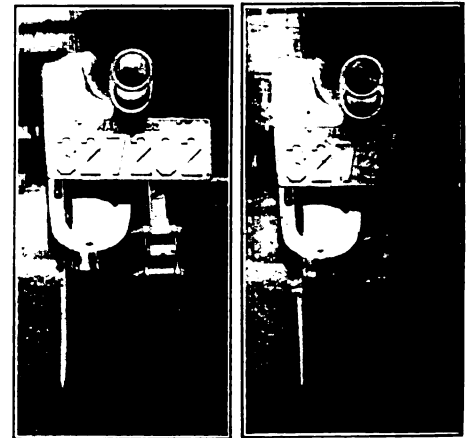
Model automobile, three feet long and one foot wide, on an adjustable base which duplicates in miniature street objects, is being used to illustrate accidents in Springfield, Mass., courts. The device obviates special drawings and has been found so helpful that several American automobile clubs have adopted similar models for the use of local traffic departments.

COMFORT CORD TIRES FIT STANDARD RIMS

Michelin Adds Balloon Tire Designed for Present Equipment—Goes on Without Changing Gear Ratio—Five Sizes Are Listed by the Company.

Balloon tires designed to fit standard rims constitute the latest contribution of the Michelin Tire Co., Milltown, N. J., to that still novel feature of the market. Known as the Michelin "Comfort" cords, they are offered in five sizes. Prices are comparable with the ordinary tires now in use.

The new tires have approximately double the air space of the ordinary oversized cords and are inflated to only half the standard pressures. Interchangeability with standard tires is provided in two ways. The new type tire, as indicated, fits the standard rim, instead of requiring the special 20-inch rim demanded by some of the balloon type tires. In addition, because the larger tire is flattened more than the standard tire, it is claimed that the height of the wheel center from the ground remains about the same, thus the gear ratio is



Comfort size shown by comparison

unchanged. Furthermore, because the wheels tend to bounce less, mudguard clearance in many instances is not a special requirement.

The new Comfort cord of 33 x 5.70 inches is thus designed to interchange with the standard 31 x 4 or 32 x 4½ tire; while the 34 x 5.70 replaces the 32 x 4 and 33 x 4½. Further comparisons are indicated by the following table:

Comfort Cord	Standard Sizes Replaced	
33 x 5.70	31 x 4	32 x 4½
34 x 5.70	32 x 4	33 x 4½
35 x 5.70	33 x 4	34 x 4½
35 x 6.60	32 x 4½	33 x 5
37 x 6.60	34 x 4½	35 x 5

The new style tire is about 50 per cent wider and higher than the ordinary oversized cord and follows the usual lines characteristic of the brand. This includes a non-skid tread pattern that is very distinctive.

TIRE BUSINESS IN SEPTEMBER IS SHOWN

Rubber Association Figures Show Decrease from August—Most Items Indicate Increase Over Same Month Last Year—Cords and Fabrics Separated.

In comparison with the corresponding month of 1922 the tire business in September, according to figures compiled by the Rubber Assn. of America, Inc., showed a substantial increase. Comparing it with the previous month, however, a decided decline is apparent as regards

TIRE BUSINESS IN SEPTEMBER Pneumatic Casings

	September 1923	1922
CORD		
Inventory	3,733,734	2,201,429
Production	1,169,140	1,425,619
Shipments	1,457,778	1,277,193
FABRIC		
Inventory	1,663,823	2,410,608
Production	860,441	1,079,125
Shipments	1,214,777	1,278,170
INNER TUBES		
Inventory	6,457,455	5,164,757
Production	3,254,575	3,501,442
Shipments	3,724,724	3,597,929
SOLID TIRES		
Inventory	249,379	200,016
Production	37,074	82,767
Shipments	49,667	69,912

the production, inventory and shipments of cord and fabric tires, inner tubes and solid tires.

Inventory of cord tires in September was 3,733,734, as compared with 4,026,140 in August and 2,201,429 in the same month last year. Production was 1,169,140, against 1,389,703 in August and 1,425,619 in September 1922. Fabric tire inventory, production and shipments were 1,663,823, 860,441 and 1,214,777 respectively in September. The same items for August were 2,034,731, 963,728 and 1,319,615.

Solid tire inventory in September amounted to 249,379 against 262,810 in the previous month and 200,016 during the corresponding month of last year. Production was 37,074 as compared with 48,141 in August and 82,767 last year in September. Shipments during September were 49,667, which is in excess of shipments of 48,718 in August. During September last year the shipments of solid tires amounted to 69,912.

"Hercules" Brace for Fords

Strength to the entire front end of Ford cars is secured by the use of the "Hercules" front end brace, produced by the Gibbes Machinery Co., Columbia, S. C. By forming a truss which extends

from under one fender across the front to the other fender, this brace prevents breaking of the front cross member, protects the radiator and also prevents the breaking of the front fender bracket. This brace is also provided with a crank holder which keeps the crank in an upright position, and may be used to carry license or town plates. It is finished in black enamel. The brace is easily installed by removing the two front fender iron eye-bolt nuts. Made of a single piece of heavy steel, the "Hercules" lives up to its name in strength and in its unusual durability.

CALIFORNIA ASSOCIATION TO TEST MOTOR LAW

Questions Constitutionality of Three of Its Provisions

Constitutionality of three provisions of the State Motor Vehicle Act is to be tested by the California State Automobile Association. A friendly action through an arrest has already been instituted and will be prosecuted in court as rapidly as possible.

The three provisions under examination are those requiring the elimination of speed traps, the requiring of traffic officers to patrol the highways in uniform, and the granting of five days for appeal from convictions of misdemeanor in violating other provisions of the Act. J. E. Berry, an attorney for the Association, drove through a speed trap, was arrested by a policeman not in uniform and charged with exceeding the speed limit. Upon being found guilty in police court Berry's case was immediately appealed.

Seibel Seat for Trucks and Tractors

The Seibel seat, which is being produced by the Seibel Air Spring Co., Inc., Humboldt Bank Bldg., San Francisco, Calif., consists of a cone of fabricated rubber inside of which is an inflated inner tube. The bucket seat of particularly comfortable design is mounted on top of this, and supported by a hinged framework which allows movement of the seat and aids the rubber cone in cushioning the road shocks.

"Six-in-One" Bumper Has Many Uses

Six uses can be made of the "Six-in-One" bumper manufactured by the Six-in-One Bumper Co., 1047 Security Bldg., Minneapolis, Minn. Besides affording protection for the car it is designed for use as a trunk carrier, tire carrier, fender brace, tail light bracket and license plate holder. This bumper is made in several sizes for use on various models and cars. The prices range from \$15 to \$22.50.

RUBBER IMPORTS GAIN IN MONTH OF OCTOBER

Crude Rubber Imports Over Twice Those of September—Singapore Furnishes Large Quantity—Most Shipments Go Through Port of New York.

Imports of crude rubber into the United States in October were over twice as large as those in September according to statistics compiled by the Rubber Assn. of America, Inc. Actual figures were 25,662 long tons as compared with 11,611 long tons. October's imports were

CRUDE RUBBER IMPORTS Month of October

	1923 Tons	1922 Tons
Plantations	18,728	22,386
Paras	410	957
Other sources	524	602
Totals	25,662	23,945

lower, however, than those in September, 1922, which were 28,288 tons, and higher than imports of October, 1922, which were 23,945 tons.

Plantations furnished the bulk of the supply during October, contributing 18,728 tons to the total. In the corresponding month last year plantations were the source of 22,386 tons. Paras shipped 410 tons to the United States last month. Africans and Centrals contributed the remainder of the total tonnage.

The largest number of tons came from Singapore, the tonnage being 9,688. Batavia came next with totals of 1,417 tons and Penang third with 1,965 tons. Belawan-Deli, Colombo, and Point Swettenham were the only other plantations to supply tonnage in the thousands. New York was the principal port of reception, as 23,422 tons came through, while Boston received 1,048 tons. The remainder came to Pacific Coast ports.

Nims Are Water Circulating Pumps

Both the Nims Ford pump and the Nims Fordson pump were shown last week by the Nims Pump Co., Stockton, Calif., at the A. E. A. show in Chicago. These two pumps are water circulating. A particular feature of the mechanical construction is the patented bearing which automatically seals itself, thus retaining lubricant and excluding dirt.

Bell Timer Simple But Efficient

Simple in construction, case of bakelite, copper contacts molded in the bakelite, no assembled parts to shake loose; these are some of the features which, the Bell Mfg. Co., Boston, Mass., claims, makes the Bell timer a leader.

APPLEBY MOTOMARTS DEVELOPING IN EAST

Lansing, Michigan, Among Pioneers to Have Plan—Brophy of Chamberlain Associates Talks in Indiana—Dealers in South to Hear Appleby.

One of the first cities to have an active Appleby Motomart is Lansing, Michigan. Temporary location for the Motomart there was available November 17 when H. R. Beale, sales manager, O. R. Starkweather, president, and M. L. Garlock, vice-president, took charge. Beale was formerly sales manager of the Buick organization in South Bend, Indiana. A permanent location has been secured by a lease for a building 150 by 160 feet which will be ready for occupancy March 1, 1924.

During this week Paul F. Brophy of the Percy Chamberlain Associates, Inc., addressed several meetings in Indiana. Next week Brophy will also talk before Indiana dealers and others interested in the plan. Brophy is accompanied by N. H. Williams, recently appointed manager for Indiana, with headquarters at Indianapolis.

As the result of well-planned campaigning by Percy Chamberlain, Associates, Inc., South Bend dealers have already adopted the Appleby Plan. They have elected D. A. Boswell, president, and W. B. Owen, secretary of their Motomart association.

Southern dealers will hear James Appleby explain his plan and service at a meeting scheduled for Atlanta, Ga., on November 21, and another at Tampa, Fla., on November 23. Arrangements have been made for preliminary development and supervision of Appleby Plan Motomarts as rapidly as they are established following initial presentation.

CLOSED CAR BUYING DETERMINES OUTLOOK

(Continued from page 17, second column)

Coupled with this, the fact that trades are being made in all but about ten or fifteen per cent of the total number of sales is exceedingly significant. It means without question a large percentage of exchanges of closed cars for open cars. This, in turn, means that dealers in sections where sales are running well ahead of the season are accumulating used cars more rapidly than is customary for the time of year.

Accumulation of new cars for winter storage against spring demand in many instances has not begun, it is said. This is a further indication of the freedom of sales, since in backward seasons it is the custom of the factories to keep on shipping cars until the dealers will accept no more, their warehouses being full.

Judgment of the situation is further rendered difficult by the knowledge that dealers handling a good many lines have already undertaken commitments for con-

siderably increased quotas for 1924. In every case closed cars represent a larger percentage of the total than in past years, so that, roughly speaking, it may be said that a large part of the prospective increase in business next year is to be in closed cars.

Ford business, which is a reliable index, continues to increase. The record production of 1,500,000 cars in the current year was passed during the month of October. Retail deliveries during the month totalled 168,820, running 65,000 ahead of October, 1922, and exceeding every month this year except March and May. Purveyors to the Ford Motor Co. have been notified to increase production to meet a schedule of 10,000 units per day by February first, it is said on good authority.

General Motors' plans for a production of 88,000 vehicles next January were published last week. The Corporation in the ten months ending October 31 built and sold 668,747 passenger cars and trucks, as against 360,660 during the corresponding period last year. This represents an increase of 83 per cent and forecasts a total production for the year of 850,000 vehicles or more.

Studebaker, Dodge Brothers, Willys-Overland, Nash, Hudson, and Packard are doing business in tremendous volume and see no reason to anticipate a sensible diminution next year. Furthermore, while these and other of the more active concerns are planning increases, it is significant that their financial position is excellent and that most of them are fortified by substantial and adequate financial reserves.

By contrast some of the smaller concerns, and those which failed to recover from the depression of 1920 are operating at considerably reduced speed and in want of sufficient unencumbered capital to operate freely under the arduous conditions that the brisk competition of the present time impose. Others, forming a majority of active enterprises, are encountering the full measure of the seasonal decline.

The situation as a whole portends a big year in 1924 with many changes in corporate structure among the smaller and less favored concerns, resulting in the main from a lack of efficient management or an insufficient financial structure. The really critical issue involved, however, appears to be the relation of closed and open car values. Quotas for dealers are in process of readjustment, at a time when it is impossible to determine what the character of the spring market will be. Therefore, while the outlook in general is for a tremendously big volume of sales next year, the future is clouded by many uncertainties and it is appreciated that the utmost caution should be exercised not only in laying definite plans but also in preparing to meet unforeseen contingencies.

PENNSYLVANIA STATE ASSOCIATION ACTIVE

Follows Road Bond Campaign with Drive for Better Business—Chiefs Wind Up Town-a-Day Tour—J. Burton Arbuckle Heads New Roster.

Following the passage of the \$50,000,000 bond issue for highways at the recent election in its state the Pennsylvania Automotive Association has launched a new campaign for better automobile business. The work of the Association played an important part in the development of the interest that led to passage of the measure but it is not content to rest on its laurels. Better cooperation between local organizations and the state body is being sought, while improved relations between state and national associations is regarded as equally well worth working for.

A party of Association chiefs, including R. C. Duffus, secretary-manager; and R. W. Shreiner, secretary to the board, as well as local business men this week concludes a nine-day town-a-day tour of important centers. Attendance at the gatherings, which included officers and members of the automobile groups at different points ran from 50 to 150. At each point the Christmas buying campaign film of the Automotive Equipment Association was displayed and direct efforts made to arouse the spirit of seasonal enterprise.

Officers elected at the recent annual convention of the State Association include: J. Burton Arbuckle, of Erie, president; E. A. Clark, of York, treasurer; R. W. Shreiner, Harrisburg, secretary to the board. The six vice-presidents are: G. G. McFarland, Harrisburg; E. T. Satchell, Allentown; G. A. Hoeveler, Pittsburgh; O. R. Conrad, Scranton; J. H. Leppert, Johnstown; and G. S. Bray, Wilkes-Barre.

EXHIBITED AT CHICAGO

"Circle S" and Foreman Products Shown

Many types of "Circle S" products were seen in the booth of the F. W. Stewart Mfg. Corp., of 358 West Huron street, Chicago, Ill., at the A. E. A. show this week in Chicago. Some of the foremost are the automatic windshield cleaner, speedometer replacement parts for the various makes of speedometers, and end thrust bearings for Ford cars. The new items on display were a wheel lock for Ford cars, fender braces and a stop signal.

The particular feature on which W. D. Foreman, manufacturer of automobile axle shafts and piston pins is laying emphasis is the Triangle brand piston pin. The Company offers the trade an array of Triangle axle shafts also.

PHILADELPHIA SALES ARE HOLDING UP WELL

Closed Cars in Record Demand—Some of the Dealers Lack Cars for Delivery—Local Association Moving to Larger Quarters and Expanding.

Passenger car sales in Philadelphia are holding up beyond the expectations of the trade. Early this Fall dealers expressed the opinion that sales would fall off substantially during November and December, and that the recession would be in effect until the opening of Spring. Current sales, however, indicate that their prediction was made too soon and was too pessimistic.

Increased sales in closed cars are being registered by the representatives of the larger companies. The closed car market in Philadelphia this year is much better than it has been heretofore, and the owner demand is considered most unusual. Some dealers are experiencing difficulty in getting deliveries from the distributors and branches. The latter institutions say they have encountered difficulty in a minor degree in getting deliveries from the factories in closed cars.

The Philadelphia Automobile Trade Assn., whose increasing activities during the past few months, have given rise to considerable comment in the trade, is soon to move into larger quarters in the new Philadelphia Inquirer Building on Broad street. When the larger quarters are available, the organization will take into its fold the Philadelphia accessory dealers' body. A great deal of enthusiasm is manifested by the industry throughout Pennsylvania over the passage of the \$50,000,000 highway bond issue at the election held early this month. Very little opposition was encountered.

MELLON'S TAX PLAN HAILED BY INDUSTRY

(Continued from page 17, third column)

dier bonus passes as a law there will not be enough money in the Treasury surplus to liquidate its requirements. On the other hand, the records show that under the budget system, and parenthetically it may be remarked that this system is under some criticism, the fiscal years 1922 and 1923 have each closed with a surplus of about \$310,000,000 over and above all expenditures chargeable against ordinary receipts, including the sinking fund and other similar re-tirements of the debt.

With this saving under the budget system Mellon aims to reduce Government taxes, with the proviso that the bonus measure be eliminated from consideration. His proposal, succinctly, contemplates the following measures: A 25 per cent reduction in the tax on earned income; where the present normal tax is four per cent, reduce it to

three per cent, and where it is eight, reduce it to four; reduce the surtax rates by commencing their application at \$10,000 instead of \$6,000 and scaling them progressively upward to 25 per cent at \$100,000; limit the deduction of capital losses to 12½ per cent of the loss; limit the deductions from gross income for interest paid during the year and for losses not of a business character to the amount the sum of these items exceeds tax-exempt income of the taxpayer; tax community property income to the spouse having control of the income concerned.

Showing the effect of the proposed changes on the income of a typical salaried taxpayer, married and having two children, the following table on incomes has been compiled:

Income	Present tax	Proposed tax	Saving to taxpayer
\$4,000	\$28.00	\$15.75	\$12.25
5,000	68.00	38.25	29.75
6,000	128.00	72.00	56.00
7,000	186.00	99.00	87.00
8,000	276.00	144.00	132.00
9,000	366.00	189.00	177.00
10,000	456.00	234.00	222.00

Explanation of his motive in submitting the plan is found in the following excerpts from his letter to Green: "The readjustment of the surtaxes, moreover, is not in any sense a partisan measure. It has been recommended, on substantially this basis, by every Secretary of the Treasury since the end of the war, irrespective of party. The present system is a failure. It was an emergency measure, adopted under the pressure of war necessity and not to be counted upon as a permanent part of our revenue structure. For a short period the surtaxes yielded much revenue, but their productivity has been constantly shrinking and the Treasury's experience shows that the high rates now in effect are progressively becoming less productive of revenue.

"The high rates put pressure on taxpayers to reduce their taxable income, tend to destroy individual initiative and enterprise, and seriously impede the development of productive business. Taxpayers subject to the higher rates can not afford, for example, to invest in American railroads or industries or embark upon new enterprises in the face of taxes that will take 50 per cent or more of any return that may be realized. These taxpayers are withdrawing their capital from productive business and investing it instead in tax-exempt securities and adopting other lawful methods of avoiding the realization of taxable income.

"The result is to stop business transactions that would normally go through, and to discourage men of wealth from taking the risks which are incidental to the development of new business. Ways will always be found to avoid taxes so destructive in their nature, and the only way to save the situation is to put the taxes on a reasonable basis that will permit business to go on and industry to develop. This, I believe, the readjustment herein recommended will accomplish, and it will not only produce larger revenues but at the same time establish industry and trade on a healthier basis

CLOSED CARS LEADING IN NORTH CAROLINA

Two Concerns in Charlotte Report Growing Business—Closed Car Deliveries Limited by Factory Output—Weather and Good Roads Big Factors.

Closed car sales are leading open car sales in Charlotte, North Carolina, and surrounding territory. Distributors report the heaviest demand they ever had at this time of the year. This is especially true of Charlotte Motor Car Co., Hupmobile distributor, which enjoys an excellent and growing business, and Booth Newton Co., Maxwell-Chalmers distributor.

The number of sales of closed cars in particular is limited only by the ability of the factories to supply the demand. There has as yet been no noticeable tendency toward a slowdown in buying because of the approach of the Winter season.

The continued extension of hard surface road mileage has been a great boon to the car dealer. Given good roads there is very little weather in this section of the Country that would make the use of cars uncomfortable and practically none that would make their use impossible. Spreading of the network of good roads may also be largely responsible for the favorable reception now given to closed cars, for since cars can be used all Winter the motorist wants the maximum of comfort for the rainy and cold days. Distributors in Winston-Salem, Raleigh and Greensboro, districts which lie in the Charlotte territory, report constantly growing sales.

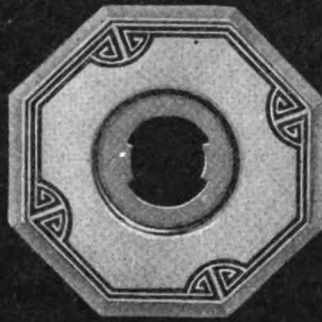
throughout the Country. The alternative of a gradual breakdown in the system, and perversion of industry that stifles our progress as a nation.

"The growth of tax-exempt securities which has resulted directly from the high rates of surtax, is at the same time encouraging extravagance and reckless expenditure on the part of local authorities. These state and local securities will ultimately have to be paid, principal and interest, out of taxes, thus contributing directly to the heavy local taxation which bears so hard on the farmers and on the small property owners.

"There is no immediate remedy for this within the power of Congress except the readjustment of the surtaxes on a basis that will permit capital to seek productive employment and keep it from exhausting itself in tax-exempt securities. The productive use of capital in our railroads and industries will also tend to bring lower costs for transportation and manufactured products, thus helping to relieve the farmer from the maladjustment from which he now suffers."

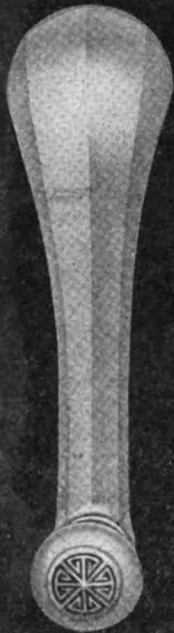
TERNSTEDT

INTERIOR BODY HARDWARE

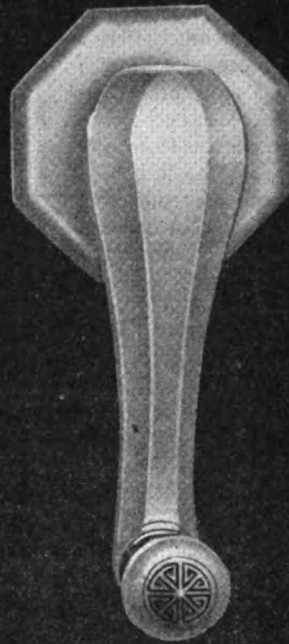


No. 14361
Escutcheon Plate

FROM
SET NO. 32



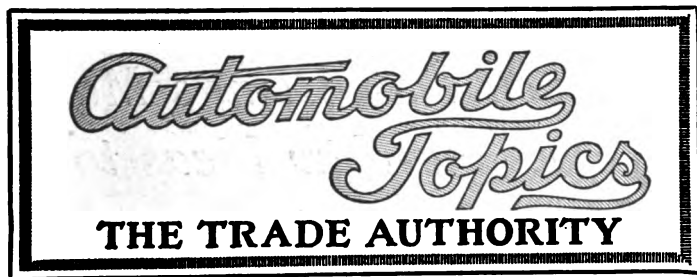
No. 14250
Regulator Handle



No. 14870
Regulator Handle



DIVISION OF FISHER BODY CORPORATION



Established 1900

MOTOR TRADES PUBLISHING CO.

1790 Broadway, New York City

FRANK W. ROCHE
 President and Treasurer

C. D. WIGHT
 Secretary

AUTOMOBILE TOPICS is published each Saturday by Motor Trades Publishing Co., 1790 Broadway (Cor. 58th Street), New York; Telephone, 5170 and 5171 Circle. Cable address—Autotopics, New York.

Remittances should be made payable to Motor Trades Publishing Co.

Advertising forms close on Monday preceding publication. Advertising rates on request.

Single copies 20 cents. Subscription price, \$3 a year in the United States, \$5 in Canada and \$6 (gold) in foreign countries within the Postal Union.

Manuscripts and pictures submitted to the editorial department, if unsuitable, will be returned, provided stamps are enclosed.

General Agents: American News Co., New York, and its branches.

European Agents: The International News Co., Ltd., London.

Entered at the Post Office at New York as Second Class Matter.

Vol. LXXII NEW YORK, NOVEMBER 17, 1923 No. 1

Municipal Parking

Ideas about parking automobiles in cities are for the most part wrong. Granted that parking spaces are a necessity, the effect of their establishment, under whatever circumstances, is to encourage business people to take advantage of them for all-day garaging purposes. The shopper and the business caller in many instances is still almost as badly off as he was before.

What congested towns and cities really want in addition to transient parking spaces is liberal areas set apart for the use of the business man who drives in from his suburban home almost every day but does not require the use of his car until he goes home again. Spaces of this character might well be arranged away from congested districts but near rapid transit facilities. The advantage to the user would be avoidance of thick traffic down town, night and morning.

Outlets

According to figures compiled by the National Automobile Dealers' Association the average market price of a used automobile on October first was \$323.27, and the dealer's loss in disposing of it at that figure was \$14.14. Retail establishments are customarily referred to in business language as outlets, and if the Association averages approach the truth automobile outlets function in two ways. They not only provide distribution for the products of the industry, but they also afford channels for the drainage of capital.

Not long ago a well-known banker evinced a good deal of concern over the following purely economic question—If an automobile depreciates in value fifty or sixty

per cent in the course of its first year, who gets the money? What gain, in other words, offsets the enormous apparent annual shrinkage in automobile valuation due to the used-car market appraisal?

Superficially it looks as though the dealer and the buyer of the used car divided most of it between them. Prime ownership, virgin finish and style are three of the four elements in depreciation that are readily recognized. The fourth, actual wear and tear, is misrepresented in the average used-car allowance, since it is proportionate to mileage. But if original possession, unblemished gloss and the imprint of the current year are worth to thoughtless purchasers almost half of what they pay for a car, then thoughtful buyers ought certainly to take advantage of this absurd state of mind and pick out good used cars as long as they last, because they are getting much more than they pay for.

Pity the Heathen

There seems to be a great deal of tenacity about the idea that foreign buyers will absorb non-standard goods more readily than they will standard products. This is about the same as saying that what is good enough for the majority of buyers in fully developed territories is not good enough for the heathen.

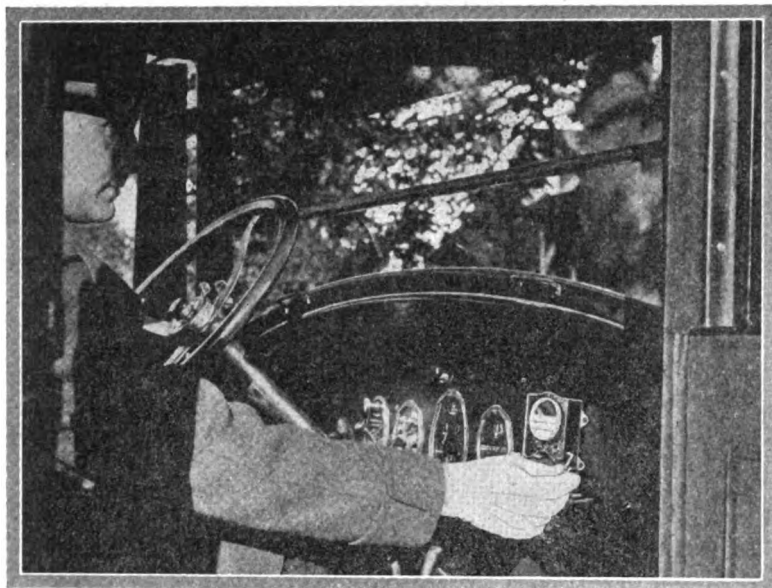
Over in England an ingenious inventor has turned his attention to the improvement of the automobile with the result that he has turned out a very light and graceful body constructed of sewn ply-wood with bulkhead reinforcements so rigid that the usual frame is dispensed with altogether. The engine is mounted in the centre, the seat for two passengers being in front of it and transmission is through a combination two-speed planetary and two-speed sliding gearset, giving four speeds.

This machine is interesting, but thoroughly unconventional except for one thing. That is that it is proposed to introduce it abroad.

It is true that users in remote districts where automobiles are few, have few preconceived notions about design to be overcome by the unconventional machine. But is it not equally true that the standard designs of the established markets are the product of mutual experience among manufacturers and users? The experimental product built for export and the cheap export product conceived solely for profit really belong in the same class to the extent that they fail to place a true valuation on the meaning of standardization.

"Epicyclic"

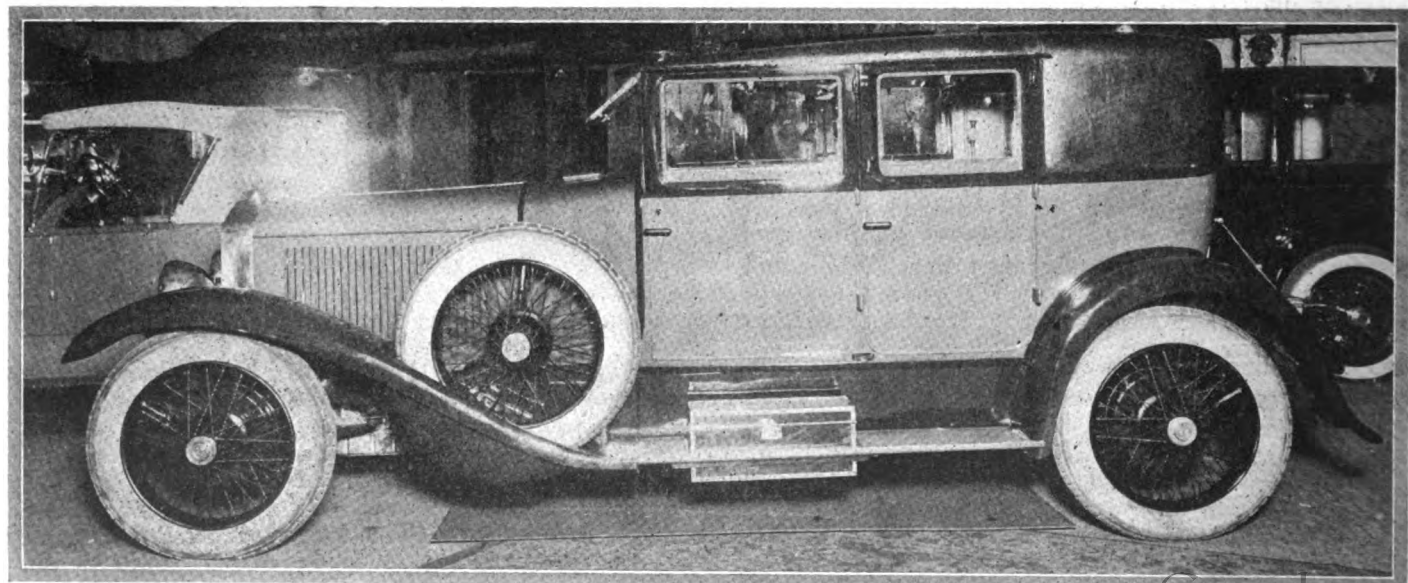
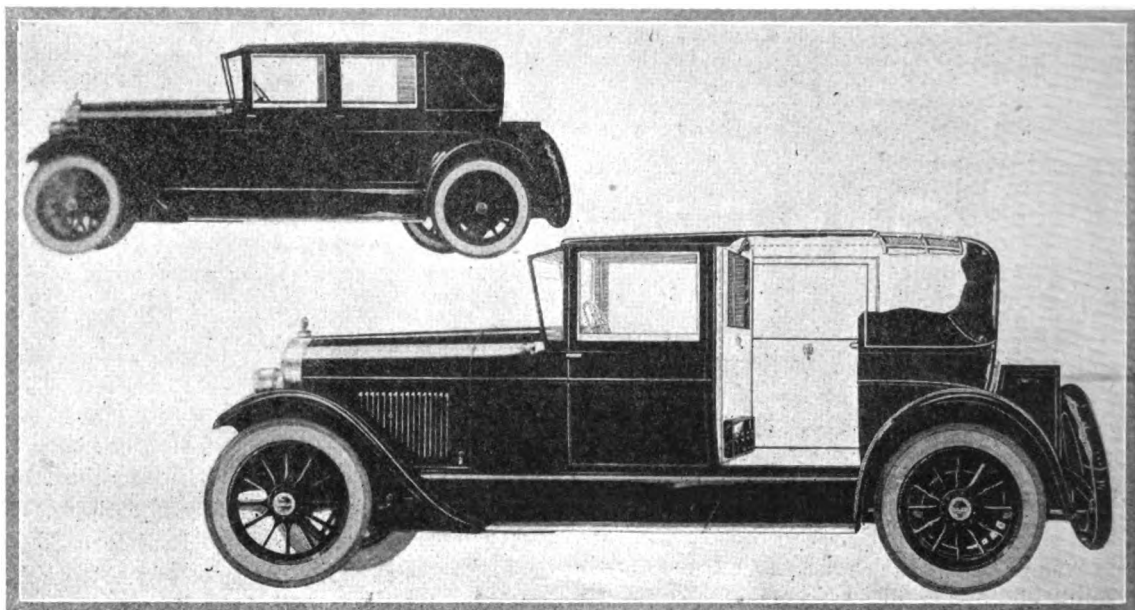
With the present season the Lanchester Motor Co., England's proudest exponent of "epicyclic," or planetary gearing, capitulates to the extent of bringing out a new model having a four-speed sliding gearset. This, it explains, is due entirely to manufacturing considerations incident upon the production of a popular-priced car, rather than because the planetary transmission is open to serious objections. The four-speed sliding gearset costs less than the three-speed planetary, built in the only way Lanchester is willing to build it, it is averred.



Each Day Brings More Brand-New Ideas to Industry's Door

SOLUTION of the motorist's smoke problem is offered by the Splittorf Electrical Company in its "Cig-a-lite." It is a cigarette container mounted on the dash that lights the cigarettes as they are taken from the holder. A resistance coil, that becomes red hot when the lever releasing the cigarette is pulled, furnishes the light, while the gentle suction through the tube to the vacuum line or intake manifold furnishes the "puff." The "Cig-a-lite" is finished in black leather with metal trim around the edges

RADIO equipment built into the body is being featured at the Salon at the Commodore this week by the Springfield Body Corp. A section of the roof of the Peerless sedan, at the right, is cut away revealing the antenna construction, loud speaker and lead in. The aerial is out of sight and in no way spoils the car's appearance



The high waist and beautiful interior of the new Excelsior shown at the Salon this week attracted much attention

Automobile Salon Shows Finest of Cars

Foreign Products Displayed to Advantage—Comparison Favorable to American Designs

TWO weeks' showing of the cream of European automobile construction in New York has afforded abundant proof that American manufacturers need give no quarter in foreign fields. This has been increasingly evident in past seasons. This year the comparison is more favorable to the American product than ever before. It is rendered so in part by the fact that foreign exhibitors at the Salon are growing comparatively more scarce, while thanks to the enterprise of domestic coach-builders, American chassis as mountings for body displays are growing comparatively more numerous. Thus the Automobile Salon is gradually developing into a display of cars de luxe, regardless of nationality, while the Foreign Automotive Association, whose maiden effort was put forth last week at the Hotel Astor, was scarcely less.

This week's Salon, at the Commodore Hotel was in every way comparable to its predecessors as a show, bringing forth a splendid display of coachwork and a number of fine chassis freshly imported from abroad. Like the show of the previous week, it was gilded with a touch of social atmosphere, its particular attraction being a daily musical program by the famous Russian Petrouschka Chorus and Gypsy Ensemble. As usual it is to be followed by a similar display in Chicago during the week of the National show.

Foreign built cars exhibited this week were the Isotta-Fraschini, Minerva, Renault and Voisin. Domestic products included the Cunningham, Duesenberg, Rolls-Royce and Winton. In addition to these body displays were responsible for exhibits of Cadillac, Lincoln, Locomobile, Marmon, Packard, Peerless and Excelsior, the last-named being a Belgian importation.

Of sixteen makes of European and American cars exhibited, eleven were equipped with four-wheel brakes. Twenty-eight of the 64 cars which were shown have wood wheels, 25 wire wheels and 11 disc wheels. Both the Belgian Minerva and the French Voisin have sleeve-valve engines. Incidentally, the latter was the only four-cylinder line. There were ten six-cylinder cars, Minerva, Winton, Marmon, Packard, Excelsior, Locomobile, Rolls-Royce, Renault and Mercedes. Three, the Isotta-Fraschini, Duesenberg and Packard displayed models with eight-cylinders in a line while Cunningham, Lincoln, Peerless and Cadillac have the eight-cylinder V-type engine.

Although Locomobile and Minerva were the only two exhibitors who used balloon tires on their models, a preference for this equipment was noted. Fully one-third of the retail orders placed during the first three days specified this type tire equipment.

Foreign builders of the sort of cars that find profitable sale in this Country are among the world's leaders in craftsmanship and fidelity to detail in fine car construction. Of this there can be no question. That they have brought forth few distinctive innovations that contribute in an important way to riding comfort, smooth performance or economy in recent years is also seemingly demonstrated by the showing which draws to an end this week. An exception might be cited in the case of front wheel braking, but this is the only exception that comes readily to mind.

Marked divergencies, such as used to brand all cars of European origin immediately and conspicuously as "foreign," no longer are evident. Niceties of coloring, delicacies of trimming and refinement of fittings, such as constitute the very striking appeal of some of the importations of the moment, represent the crowning achievements of body building and decorating art. But, on the other hand, with few exceptions they convey the impression of being impractical for everyday use, being delicate, if not overdone. The less elaborate types are difficult to distinguish from the best of the American products which are shown cheek by jowl with them.

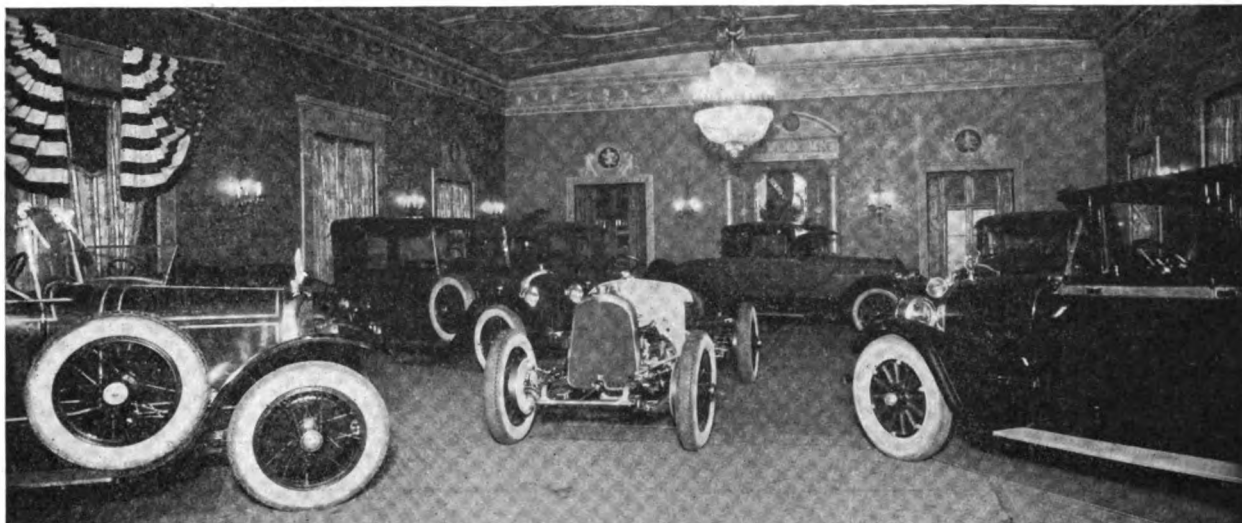
Exceptions to these generalities are to be noted and may have some significance. So far as tendencies are to be observed among the foreign car builders they are of two kinds.

With closed cars, emphasis of length plus the use of exceedingly long chassis, conveys the impression that headroom has been sacrificed very materially. As a matter of fact, American builders of closed models, while cutting down headroom somewhat during the past year or two, have by no means gone as far as the overseas builders in this respect. The consequence is that placing the American and European cars side by side produces an immediately noticeable contrast. As far as symmetry goes this is to the advantage of the foreign designer. As far as comfort is concerned it may be charged that in some instances the latter may have gone too far to please the exacting user.

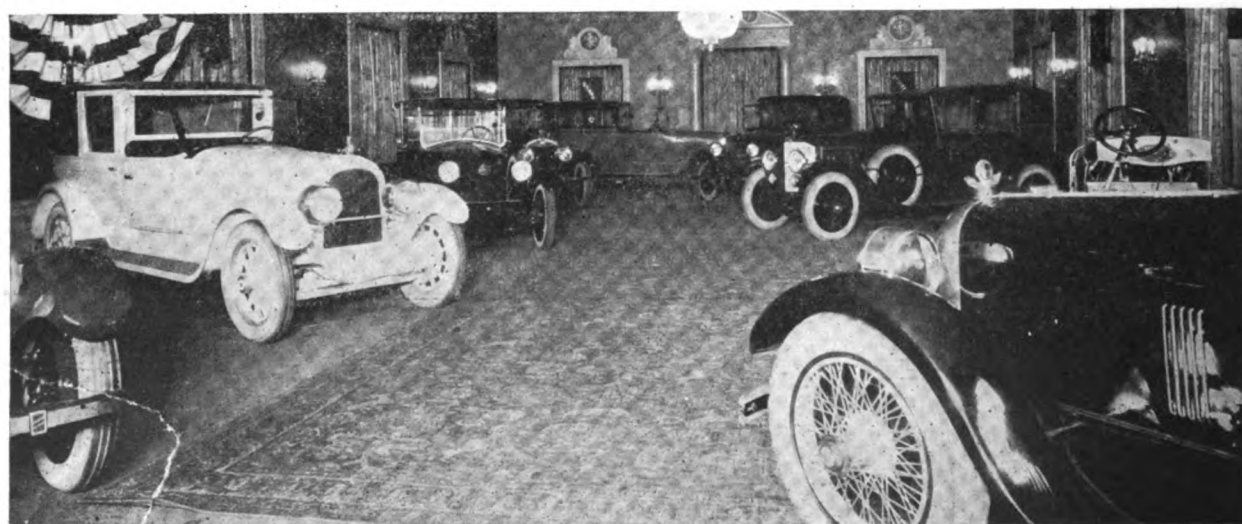
SINCE New York has had two exhibits of foreign cars in as many weeks, the number of brand new presentations at the Automobile Salon was not as great as might have been expected. However, through the display of American cars bearing the finest of our coachmakers' productions, a comparison with the imported jobs was made possible.

In the foreign exhibits there was nothing really startling, refinements rather than innovations marked the majority of the models. Trimming, upholstery, hardware—these and many other details showed the result of most careful treatment. Nor do American cars, as a whole, suffer by comparison. It is evident that the manufacturers and body-builders are determined that the most fastidious customer shall be satisfied with domestic goods and that they further intend to give no quarter in the foreign field.

Annual Salon Has Unique Features



CARS from five foreign countries, including a number of American bodies and chassis, composed the Nineteenth Annual Automobile Salon at the Hotel Commodore in New York this week. Striking colors and elaborately finished interiors were featured. Among the accessories were included several very beautiful tire displays and a number of luxurious robe and upholstery exhibitions



The other trend is in the matter of decoration. Here the leaning is toward soft and not too conspicuous colorings, with a marked effort toward simplification. This is evident in the frequent use for emphasis of contrasting shades of the same color or of closely corresponding colors. Loud color contrasts and "screaming" shades in general are absent.

Beadings are used to some extent, as is striping, but if the spirit is properly interpreted the idea is to secure an almost unconscious emphasis, rather than the conspicuous accent which has been favored on some occasions heretofore. This applies not only to exterior finishes but is found in interiors as well. The exception in the case of the foreign bodies is found in continued use of bright colored and highly polished woods for garnishment of panels and around windows, as well as in superlative use of silvered interior fittings.

For illustration, in one instance, a town-car, lining and upholstery are of identical shade, but where the lining is a plain velour the seat and back are upholstered in a coarse basket weave, affording a marked, but inconspicuous difference in texture of which the observer is hardly more than sub-consciously aware.

A light cream exterior finish in another case is set off by wide, thin moldings of a soft chocolate brown. This is scarcely more than a broad, raised striping band, running close under the windows, to afford a high belt-line effect. This band is picked off with a very fine line of vermilion on the edges of the moulding. The contrast is sharp, but the volume of the lining color is so small that the effect is merely to emphasize the band, while the line itself is almost invisible.

Moldings Differ in Foreign Cars

In a number of instances moldings are carried around the belt of the body and converge over the cowl to form a single line running forward to the filler cap on the radiator. This device was used somewhat last year by foreign designers as a means of emphasizing the continuity of body and hood. In this respect it is effective, but it has the disadvantage of making the cowl appear exceedingly wide when viewed from the interior. Double moldings, producing side panel effects, are rather more in favor with American than with overseas designers, it appears.

For very fine cars lower and wider rear seats are noticeably popular. With such luxurious seating also the use of pneumatic cushions is increasing. The effect is that of the drawing room or club lounge, but critical inspection of angles suggests that despite the soft cushioning the necessary sprawling posture is too exaggerated for continuous comfort on very long rides. What is desirable in a town-car may be wholly unsuitable for touring, however, and it is to be admitted that the super-luxury types exhibited were all of the latter order.

Some mystery surrounded the Excelsior car which, it was said, would be on display at the Foreign Car show last week. Through some miscarriage, it did not arrive on time, in fact the Belgian car appeared in the Salon two days late. Upon disclosure, however, it proved to be quite distinctive. The body is an adaptation of the Barker Prince of Wales Brougham.

Body sides are extremely high—extending to the top of the driver's seat—and the windows consequently smaller than is common practice. This gives the car a very low hung and rakish appearance. Spare wheels are carried on the running board, one on either side. The fenders have

been so shaped that they form a well for the spares. A tool box of highly polished wood is set into the running board extending about five inches above and four inches below. The rear quarter is solid, leather covered. A folding trunk rack and bullet-shaped headlights are other items of exterior equipment.

On opening the door, finish which approaches boudoir daintiness is seen. All the woodwork is inlaid mahogany which has been polished to a mirror finish. Appointments which would satisfy the most fastidious combined with high quality, light-colored upholstery make the rear compartment a thing of beauty. A novelty is the use of window regulators of considerable simplicity, having a spring mounting sufficiently strong to raise the glass combined with a cam lock running the full width of the window in a circular housing. The arrangement is simple and apparently inexpensive, as well as rattle-proof.

Chassis Shown in Minerva Exhibit

One of the other very interesting displays was the Minerva exhibit. Besides showing a chassis, an attractive berline-landaulet and town-car were displayed. The town-car is done in two-tone green with a heavy molding carried forward to the radiator cap as previously described. An exceptionally large rear compartment is made possible by the length of the Minerva chassis. The berline-landaulet is trimmed with highly polished wood. It is done in black with green around the window frames. A low running board and cowl lights with frosted lenses are other features of the model.

In the Voisin exhibit were two or three new departures in body construction. In order to preserve the appearance and facilitate the attaching of the fabric top which covers the driver's compartment of the town-car model, this top is fastened to a roller similar to an ordinary shade roller. In case of a sudden shower the driver need only reach above his head to where the roller is fastened at the front body, pull it forward and hook it to the windshield.

The town-car is trimmed with inlaid mahogany. Leather is also used for trimming and the fittings. Outside grab handles facilitate entrance. A four-passenger speedster in very "sporty" design was also shown, a gypsy top being one of its features.

The Isotta-Fraschini blue roadster was conspicuously elegant. Cowl lights are mounted on this model in a unique way. A heavy nickel bar extends across the hood just in front of the cowl, forming a sort of bead between hood and cowl. The ends of this bar are bent back slightly and form brackets on which the two nickel finished cowl lights are fastened. The running board is wood with metal strips running its length. A copper gasoline tank of "oversize" capacity adds an attractive touch to the rear end. A town-car in two-tone brown, with red wire wheels is another very attractive model.

Coming to the domestic cars, Duesenberg, Cadillac, Locomobile, Marmon, Peerless, and Packard displays vied in luxurious appeal.

Among the custom-built Locomobile models was a sport roadster by Demarest. In this model the lines of the hood extended around the body to come to a point in the rear. The suggestion of speed in its lines was accentuated by the use of large exhaust pipes such as are seen on racing models.

In the Victoria, the body builder has produced a superb car. Passengers in the tonneau are protected against wind

(Continued on page 44)

Railroads Aided by Highway Transport

Trucks Replace Unprofitable Branch Lines—Buses Used for Interurban Passenger Service

By ARTHUR H. BLANCHARD, President National Highway Traffic Assn.*

ONE OF the most potent factors in the development of agriculture and industries, growth of cities, increase in wealth of states, and in establishing a sound basis for national prosperity is the efficient co-ordination of our railway, waterway, airway, and highway systems. Only by the development of a sound economic interrelationship between these four systems, will we obtain low rates, which will yield a reasonable return to the operators and transportation facilities of maximum benefit to the public. It is of no benefit if a million bushels of grain has been produced in Kansas, if that grain cannot be carried to market. As Senator Ransdell from Louisiana has said, "Prosperity is not helped because a bumper production of this or that is brought into existence, if transportation means be lacking to move it promptly and at reasonable charge to those who require it." The late Professor Alexander Graham Bell tersely summarized the value of our systems of communication when he said that "Transportation is the very bloodstream of civilization."

About fifteen years ago, James J. Hill, that pioneer in railroading, stated before a Committee of Congress that "Transportation demand was increasing so rapidly the railroads were unable to keep pace with it, and that in the near future our transportation facilities would collapse under the burden if we continued to rely solely upon the railroads to carry all the things that people produce." Vice-President Elisha Lee, of the Pennsylvania Railroad, has declared that "The next time our Company has a real revival in business, we shall come, in all probability, to be confronted with the most severe congestion of railroad traffic and the most inadequate railroad facilities in our history. When that happens, rates will be lost sight of. Everyone will be clamoring for service. The whole Country will demand transportation at any price; and rates will become so high they will cause great economic waste." On January 20, 1923, Representative Newton of Missouri, on the floor of Congress, made this declaration: "The most serious commercial problem confronting the American people today is the problem of transportation. Our industries cannot develop beyond the limits of our transportation facilities. When you shut down the machinery for transportation, you paralyze the industries of the Country."

In discussing the present interrelationship between railway and waterway transportation, Mr. Logan G. Mc-

Pherson said in 1910 that "In the United States the railways demonstrated their superiority not only over the canals, but also over the rivers, in large measure displacing even the steamboats for which the Ohio and Mississippi rivers and their tributaries were famous."

This is a correct statement. Let us diagnose the methods by which it was accomplished. The following findings of the Inland Waterways Commission afford us the desired searchlight:

"While the decline of navigation in the inland waterways was largely due to the natural growth and legitimate competition attending railway extension, it is also clear that railway interests have been successfully directed against the normal maintenance and development of water traffic by

control of water-fronts and terminals, by acquisition or control of competing canals and vessels, by discriminating tariffs, by rebates, by adverse placement of tracks and structures, and by other means."

"So large a portion of railway traffic is free from water competition that railways can readily afford to so reduce rates on those portions affected by such competition as to destroy the profits of the water lines without appreciably affecting the profits of the rail systems which recoup these reductions by higher rates elsewhere."

What is the present attitude of railroad officials in the United States towards the development of highway transport? The answer is not a simple one to formulate as many diverse opinions have been

expressed in words and actions. Some of our railroad officials appreciate the intrinsic value of highway transport and have made use of it as a part of their own transportation systems. Others have advocated its development because they know that it is necessary to the success of their business that facilities should be provided for economically transporting goods over highways to be later carried by railways. Others have been concerned regarding the development of highway transport from the standpoint of destructive competition with railroad transportation and have endeavored to curtail its development through legislative action. Others, and it is hoped that there are only a few in this class, have considered the subject from such a narrow viewpoint that they have advocated a curtailment of highway improvement.

Do we need to go further to realize the vital necessity of developing in the minds of the people, our representatives in legislative halls and the operators of the four great

RAILROADS AND THE TRUCK

RELATIONSHIP between the railway and highway transportation is a subject which has aroused considerable interest and speculation among the various bodies affected by these two carrier organizations. One of the questions which is being asked, and particularly by the railroads themselves, is, "What are the opportunities for the railroad to function as an operator or user of highway transport?"

Mr. Blanchard points out in his address four ways through which the railroads may profitably adopt highway transport. Transportation of freight from terminal to terminal in the same or nearby cities, the use of buses in interurban passenger service, the use of trucks in districts where a branch line operates at a loss; these and other opportunities are elaborated upon and their practicability shown

*From an address before a joint meeting of the North Central Division of the National Highway Traffic Assn. and the Michigan State Good Roads Assn., East Lansing, Mich., November 6.

Success Crowns A. E. A. Chicago Convention

Reflects Prosperity that Characterizes Entire Industry— Rivals National Shows in Brilliance

(By Wire from Chicago)

REFLECTING the high degree of optimism and prosperity that characterizes the current trend of affairs in the entire automobile industry members of the Automotive Equipment Assn. at their annual convention and show in Chicago this week attained a measure of success that establishes a new record for the organization. The show was beyond question the most successful ever held by the association and was carried on in a more pretentious fashion than heretofore. The entire Coliseum building was utilized, and except for the fact that the exhibition was reserved for the industry, it rivalled many of the National Automobile Shows in points of attendance and brilliance.

The general feeling at the show was that the accessory business is in a very healthy condition. Manufacturers and jobbers were almost unanimous in this opinion. However, few of them looked for any great amount of business at the show, feeling that subsequent business will bring results far in excess of previous exhibitions. There was an atmosphere of substantial satisfaction pervading the entire convention. The attractiveness of the exhibits and the general decorations served to accentuate this admirably well.

Conferences Well Attended

All of the conferences are well attended and reflected the optimistic attitude of all those present. At the Wednesday morning session a very interesting talk was given by Congressman Clyde Kelly, author of the Stephens-Kelly Bill.

"If it's right for large corporations to maintain price," said Kelly, in part, "it's right for independent or small corporations to maintain price. It is necessary to have some form of legislation to deal with the price fixing situation. Furthermore, cooperation is necessary—the business man has not done his share in politics. The price-cutter is a business malefactor."

At another session, a new maintenance program was outlined by the association. This has been designed to improve the garage and service station business. A new moving picture film on this subject is being issued by the association.

M. P. McNair of the Harvard Bureau of Business Research addressed the convention on Monday. He pointed out the significance of stock fluctuations and their effect on merchandising as a whole.

"Christmas sales are going over big," stated Arthur H. Mogge, merchandising director of the A. E. A. "Nearly 100 manufacturer members of the association have put up their goods in Christmas packages.

"There are 200 jobber members of the association," he continues. "Out of that number 171 have bought the display material put out by the Merchandising Department of the A. E. A. or have put out display material of their own. Everyone is optimistic and expects a big year."

Mogge has put forth tremendous and effective efforts in putting over his idea of buying "something-for-the-car-for-Christmas." He has visited many local associations during

recent months and has addressed hundreds of dealers on this subject, with telling effect. His message to accessory merchandisers is as follows:

"Every year thousands of people have exclaimed 'Oh! what shall I give this Christmas?' and at the last moment have dashed into crowded stores and bought almost anything that was called to their attention. Car dealers, accessory dealers and garage men can greatly increase their business if they will make early preparations this year to be able to answer the question 'What shall I give?' by being in a position to say 'something for the car for Christmas,' and to follow it up with a program such as being suggested by the Automotive Equipment Assn.

Christmas Sales Opportunities Emphasized

"Late reports state that there are over 13 million automobiles in the United States and that over 12 million of them are passenger cars. With people in a gift buying mood during the months of November and December there is a wonderful opportunity for those engaged in the resale of automotive accessories, supplies and service to push the idea outlined. The prospective purchasers of automotive gifts need not be confined to the immediate families of car owners, but when we consider the possible exchange of gifts between friends, whether the giver has a car or not, we have a market for at least 50 million Christmas gifts.

"It is a fair statement to say that the average car owner, or family, would rather have something for the car than any other kind of a Christmas gift. As a means of building up a constructive program, the A. E. A. started out early this year to get the manufacturers, jobbers and dealers to work together and put over the idea.

"As early as last June manufacturers started to work on their Christmas merchandising programs. Many of the manufacturers making items which are applicable as Christmas gifts have arranged to put up their merchandise in holly packages, and to feature their products as gifts through various advertising mediums. Jobbers are also making extensive preparations to help put over the idea. Dealers will find jobbers' salesmen ready and willing to check stocks and suggest those lines which should make the best Christmas gifts.

"To the dealer falls the greatest responsibility. The public must be sold on the idea. Manufacturers and jobbers can do a certain amount of promotional work, but it is up to the dealers to 'Ask 'Em to Buy.' It is not hard to trim a Christmas window with accessories and it should not take over an hour's work to get a very satisfactory effect. Many manufacturers are putting up their merchandise in holly wrappers at the factories this year. Dealers should also find it well worth while to purchase moderate quantities of holly paper, red string or holly tape so they can wrap up other goods as gifts. This applies not only to those items placed in the windows, but to all those sold."

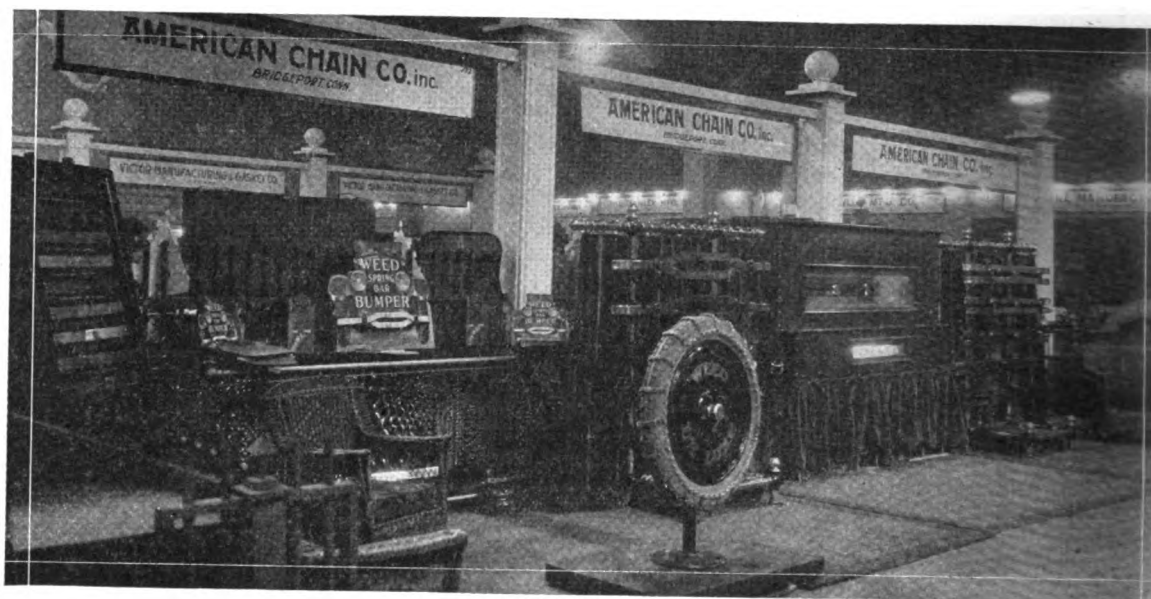
The effect of Mogge's pre-holiday activities was very apparent at the show this week. Holiday packages adorned



Automotive Equipment Stages Its Show in

A Wide Range of Accessories and Field of Smallwares, Displayed Exhibits Tastefully Arranged Motion Features and Methods Employed

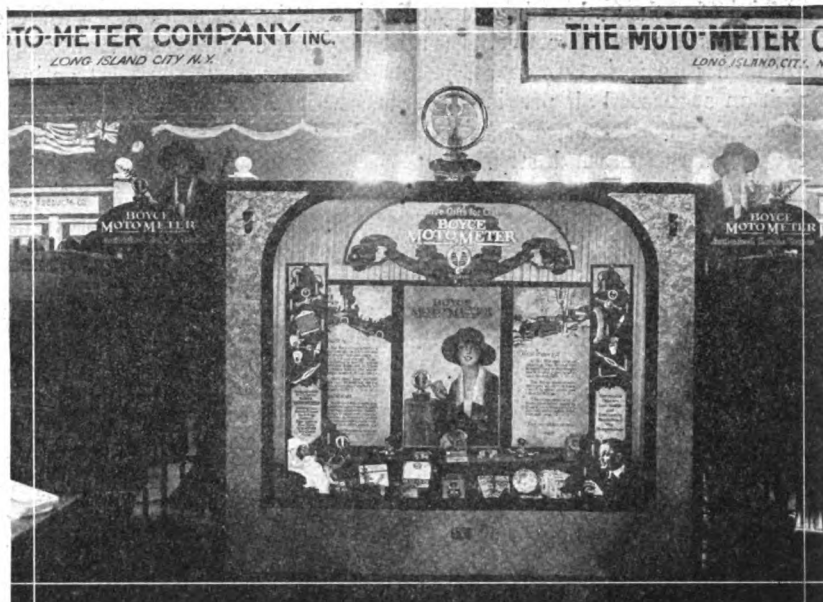
A VERY complete display was that of the American Chain Co., Inc., showing a full line of Weed De Luxe tire chains, Spring Bar and parallel bar bumpers, as pictured at the right. Above is a general view of the A. E. F. exhibit showing the Coliseum beautifully decorated with multi-colored flags



FERNS and palm trees formed an impressive background for the Klaxon Company's exhibit. The "Klaxon-7," the concern's latest model horn, was featured. Other warning signals, including the higher priced lines of the concern, were also on display

nt Association and Biggest Coliseum

*Covering Practically the Whole
Exceptional Circumstances—
with Abundant Color and
as Merchandising
Illustrated*



SEVEN different types of spark plugs wrapped in attractive Christmas packages composed the exhibit of the Champion Spark Plug Co. of Toledo. A picture of the concern's pleasing display is shown at the left. Moto-Meter Co. also featured its product as an Xmas gift, as shown above

ONE of the most attractive displays at the A. E. A. show was that of A. Schrader's Son, Inc., with Christmas stockings hung in all available places. Tire gauges and valve insides were also shown



most of the booths and made a very effective setting. Among other things it gave the convention a holiday tinge that was more than pleasing. From all points of observation the exhibition surpassed all previous events. More automotive equipment and accessories were exhibited than ever before in the history of the industry.

AT THE SHOW IN THE COLISEUM

Chicago, November 15.—The Coliseum is tastefully decorated with American flags and red, white and blue bunting. Greer Building is filled to capacity with exhibitors while on the balcony of the Coliseum are stationed new members of the A. E. A. These are the C. M. Hall Lamp Co., the Bastian-Blessing Co., Chicago; the American Auto Parts Co., Detroit; Cuno Engineering Corp., Meriden, Conn.; the "X" Laboratories, New York, and the Automotive Gear Co., Richmond, Ind.

All of the delegates to the convention seem to be in a very cheerful frame of mind. Plenty of music adds a gala touch.

Exhibits are tastefully arranged. It is evident that the manufacturers have done their utmost to act the part of host to the visiting jobbers. Comfortable seats are to be found in many of the spaces and potted plants placed here and there add an attractive bit of color.

The Christmas sales idea plays an important part in many of the exhibits. This campaign is being pushed to the utmost by those whose goods are at all suitable. Some are offering suggestions for Christmas window displays, others featuring Christmas posters and cards while many have effective holly packages and wrappings.

An especially attractive display was staged by the General Automotive Corp. This consisted in part of decorated and lighted Christmas trees and various holly wrappings and packages.

The Merchandising Department of the A. E. A. has an exhibit devoted exclusively to the "Ask 'Em to Buy Something for the Car for Christmas" movement. Suitable merchandising cards are included in this display while the various Christmas packages of the manufacturer members are presented.

As the visitor enters the Coliseum the performing seal of the No-Leak-O Piston Ring Co. attracts his attention. This is shown in a cabinet against a background of Christmas posters. On either side of the cabinet is a pine tree.

Van Cleff Co., makers of Dutch Brand products is introducing its Dutch Girl in person and as a result is attracting considerable attention.

Where possible, devices are shown in actual operation. This includes automatic windshield cleaners, spot lights, headlights and such.

F. W. Stewart Mfg. Corp., Chicago, for example, has its stop lights going. It is also featuring Christmas packages.

Automotive Gear Co., Richmond, Ind., one of the new members, is showing Double Diamond drive gears, drive pinions and differential parts. These gears are guaranteed to interchange with the gears they are supposed to replace.

Westinghouse Lamp Co. has circle of orange lamps with letter W standing out prominently in black. Beneath this letter are the words "Westinghouse lamps."

American Bosch Magneto Corp. has row of red signs about space advertising American Bosch plugs. Effective display stand is placed on table in front of exhibit.

American Hammered Piston Ring features machine which shows the hammered process. This makes a very interesting and instructive exhibit.

Display stands showing various models of Eaton bumpers are exhibited by Perfection Spring Division of Eaton Axle and Spring Co., Cleveland. The new Excalibur model is the feature.

American Chain Co., Inc., makes a feature of the Weed bumpers. These are shown on display stands against a purple velvet background. Weed chains are also included.

The Christmas stocking of A. Schrader's Son is played up strong in that display. They are mounted on the wall. The Schrader products are shown in a glass show case.

The Klaxton Co. shows its familiar line of horns. "Klaxon-7," a recent model, and also model "8" are featured.

Christmas packaging is stressed by the Champion Spark Plug Co. "Sillimanite" used in the construction of the Champion plugs is shown as it is taken from the Company's mines in California.

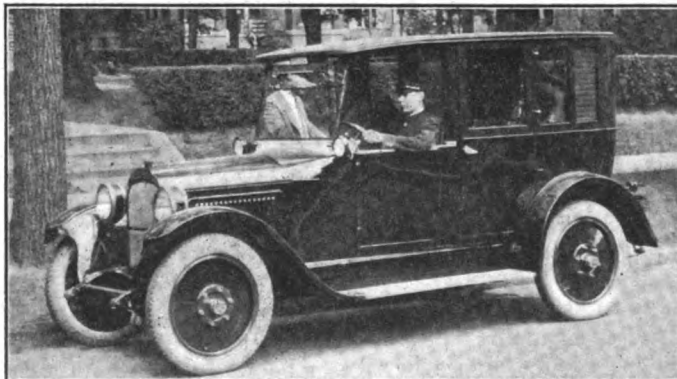
Both the C. A. Shaler Co. and the K-D Lamp Co. are featuring the Christmas sales idea.

In the booth of the Russell Mfg. Co., maker of the Rusco products, there is a series of effective bulletin boards showing the various products. In each case the product is mounted on the board along with the package in which it is contained.

Willys-Knight Taxicab Has Distinctive Air

DISTINCTIVE lines and sturdy construction are the outstanding features of the Willys-Knight taxicab recently placed on the market.

The passenger compartment is particularly well fitted and commodious. A sliding panel of wired glass allows com-



munication with the driver.

Next to the driver's seat there is sufficient room for considerable luggage. The lines of the taxi are enhanced by drum type headlights, disc wheels and a sloping windshield. It is listed at \$2,250

RAILROADS AIDED BY HIGHWAY TRANSPORT

(Continued from page 38)

systems of transportation that only through coordination of all and the enactment of legislation which will permit the efficient development of each agency will the public welfare best be served.

It may appear audacious to bluntly announce that highway transport is an aid to the railroads especially in view of statements frequently appearing such as that of one railroad president who charged a deficit of \$4,856,000 to motor vehicle competition. Bald conclusions of this character appearing in the public press bring to the mind of the reader the much maligned motor truck tearing up the public highways. The public does not analyze the true meaning of the loss in revenue. It does not appreciate the large percentage of reduction of railroad receipts due to the operation of the family motor car. It does not know that some railroads are experiencing a reduction in gross revenue but would not suffer a loss in net profits provided that they efficiently used their facilities.

Position of the Rails Secure

The average citizen has lost sight of the usual consequences which follow the development of a new mechanical invention of benefit to mankind and the use of which contributes to national progress. Many railroad officials appear to have forgotten what happened to canal and river traffic and profitable commercial highway transport in the days when stages constituted the only common carrier for overland transportation. The disastrous effect on the balance sheets of canal, river and stage companies of the laying of hundreds of miles of rails wherever there was an evident field for bulk or mass transportation is a chapter in the story of railroading known to all.

Railroads are not going to cease to function because of the development of highway transport. The railways are and always will be a vital part of our transportation system. They, however, have an economic field which has clearly been defined by Professor Henry E. Riggs of the University of Michigan when he said at a convention of the National Highway Traffic Association that "Railway transportation for long distance business, and for all carload business where there is direct track connection to the factory or warehouse of the shipper is and always will be more economical than any form of highway traffic." The writer is an optimist and therefore believes that the American railroad official will see the light shining from the beacons of publicity and dissemination of knowledge and will soon administer his system of transportation with full recognition of the true value of highway transport to the railroads and the part which it will play in national development.

The railroads can render immediate valuable service to the public and to themselves by helping to direct the development of highway transport as feeders to rail lines and as extensions of rail service. A correct and immediate solution of the inter-relationship between these two links of our national distribution system is very desirable in the interests of public welfare.

What are the opportunities for the railroad to function as an operator or user of highway transport?

First: The transportation of freight by motor trucks from one railway terminal to another in the same or nearby city. The advantages of the utilization of highway transport, as compared with the tedious method of rail transportation by

"trap" or "transfer" cars over congested tracks have been appreciated by a few railroad officials. It has been established in some cities, such as Cincinnati and St. Louis.

Second: The organized delivery with motor trucks of carload freight from public team tracks in large terminal areas. With such a system in effect, it has been stated that the present freight car equipment of the railroads would be sufficient to meet all transportation needs for several years to come.

Third: Extension of transportation service through the medium of motor truck and motor bus routes. There are several methods of development practicable in this field. The urban and interurban electric railway lines may logically expand their present passenger transportation facilities through the establishment of tributary motor bus routes. During 1922, sixty electric lines throughout the United States used motor buses to supplement their rail service. Steam railroads may enter this field through the development of intercity and rural motor express lines to carry both commodities and passengers. One of the most notable examples is afforded by the highway transport services of the Great North of Scotland Railway Company which established its first motor truck service in 1904. In 1921, this railway company was operating five passenger routes and seven intercity motor truck routes. Railroads having stations in scenic areas may well give consideration to another development by the Great North of Scotland Railway Company which operates from Aberdeen a motor bus line for tourist traffic.

Fourth: The collection and delivery of freight in municipalities and adjoining areas, which is similar to the methods universally employed in large cities for handling express shipments. This phase of highway transport would be a development of what is commonly known as the store door delivery plan. The ruling of the Interstate Commerce Commission in the case of the Baltimore development along this line means that it is impracticable for interstate railroads at present to use their own trucks in this manner except on such a large scale that the charge of discrimination in services rendered could not be brought against them. It is possible, however, to arrange with a large trucking organization to render this service. A development in Michigan is the plan of the Detroit United Railway to establish a pick up and delivery system with motor trucks especially equipped to carry box containers, one or more containers being used for the freight of one shipper. In England, we find railroads functioning as operators of highway transport in this field. One of the most notable examples is the case of the London and Northwestern Railroad's comprehensive system of freight delivery by motor trucks in areas with headquarters at London, Birmingham, Manchester, Liverpool and Leeds. This railroad established its highway transport service in 1905. In 1920, it was operating over 350 motor vehicles.

Replacing Unprofitable Branch Lines

W. H. Lyford, vice-president of the Chicago and Eastern Illinois Railway Company, believes that another field for the profitable use of the motor truck is the transportation of freight between communities which are served by branch lines of railway on which the traffic is too light to pay the expenses of any kind of railway transportation. He further says that no more such branch lines ought to be constructed if the highway transport operator will take over this field and occupy it intelligently and efficiently, and that money losing branch lines along which transportation by

motor truck over existing highways could be furnished at less expense, should be abandoned.

To cut down operating costs on branch lines, forty steam railroads are now using flanged wheel motor buses. Another development may be the reconstruction of the railroad roadbed as a private highway for the use of the railway's truck and trailers or its operation as a toll-road, which, if properly constructed for four lanes of traffic and without grade crossings, could accommodate slow moving trucks and trailers and high speed motor buses.

Elisha Lee, vice-president of the Pennsylvania Railroad, goes a step further when he states that "The railroads still do a great deal of purely retail business. Some of it perhaps pays its way, but much of it unquestionably entails a loss. In the immediate vicinity of all our highly developed commercial and industrial communities, an immense amount of such traffic originates. A large portion of it moves only a few miles but in its handling we are obliged to employ the most costly and overworked facilities which the railroads own, namely, the yards and terminals in the great centers of industry and population. Here is a real opportunity for the motor truck to demonstrate its utility upon a true economic basis. The reason why less-than-carload traffic, especially on the shorter hauls, is becoming a growing burden upon the railroads is that we are obliged to use in it terminal facilities and rolling stock which are too expensive for the purpose and which of necessity must be primarily planned and adapted to the handling of bulk traffic, mostly moving over the longer hauls. Therefore I be-

lieve it to be at least probable that in many instances the short haul less-than-carload freight traffic could be turned over bodily to motor trucks with resulting advantage to the railroads and the patrons."

The views of state officials on certain phases of the interrelationship between railway and highway transport are indicated by the following excerpts from the 1922 report of the Committee on "Motor Transportation" to the National Association of Railway and Utilities Commissioners:

"Auto truck transportation meets a public demand in the rapid transit of less-than-carload shipments, including the door-to-door delivery element which railroads have thus far failed to furnish. Railroad companies have exhibited a degree of indifference or slowness bordering on stupidity in recognizing and meeting demands of the public for quicker and more convenient movement of less-than-carload freight shipments.

"It is evident if rail carriers hope to retain their short haul freight traffic, it will be necessary for them to make radical changes, both in service and equipment. Trucks are rendering an astonishing service between shopping centers and outlying trading points. Country merchants prefer direct truck service to the railroads even where the cost of the service is equal, for the reason that the trucks call at the wholesale house, receive the commodities desired and unload them at the store doors. This enables the country merchants to conduct business with a smaller stock of goods, for the reason that new supplies can be obtained conveniently and on short notice through truck service."

AUTOMOBILE SALON SHOWS THE FINEST OF CARS (Continued from page 37)

and dirt by an extra cowl and tonneau windshield. The rear cowl extends to the edge of the seat. Metal strips on wood form the running board. In the Locomobile town car which is finished in black, the white striping follows the lines of the body to the rear of the driver's seat where it curves upward, crosses the door and drops again to its original height.

The Hume Body Corp. presented a new model town-car and a convertible coupe mounted on Marmon chassis. The town-car is finished in light cream color with body moldings and wheels striped in black. It has a black body panel and top and is upholstered in faun broadcloth. The coupe is finished in two-tone moleskin with an orange striping. It is upholstered in a harmonious tone which is carried out in the oxidized fittings with which it is equipped.

One of the very interesting exhibits among the domestic productions was the Peerless radio sedan. This job, the result of the ingenuity of the Springfield Body Co., is an exceedingly well finished sedan with the addition of a built-in radio outfit. This feature was incorporated to provide automobile campers and tourists with some connection with the outside world. The body of the "radio sedan" is finished in very light gray and green. The upper half of the hood is dark green while the lower half is finished in the light color. This belt extends entirely around the body. Green broadcloth, the monotony of which is relieved by a stripe, is used for upholstering the sedan—the result is an exceedingly rich effect.

Another Peerless model which attracted considerable attention was the one shown by the Merrimac Body Co. The entire body of this model was covered with Meritas

fabric which has the appearance of leather. The rear quarter is solid with oval windows placed at an angle and dummy landau braces. A wicker belt with a heavy nickel bead on either side extends from the cowl around the rear of the body. Natural color wood wheels are used. These two features of design serve to set off the fabric finish and produce an attention-commanding job. The distinctive feature of this car is its construction—fabric and padding over a wire-mesh base. Aside from the novelty of the finish, its sound-proof quality is advanced as its chief advantage.

Cunningham exhibited a unique model in its four-passenger sport job. This is a sort of clover-leaf model with the front seat divided to provide entrance to the rear. The back seat is divided. At either side of the tonneau are compartments the top of which form a continuous curve with the body sides. Locks are provided for safety. Gray is used for the body finish with green wire wheels to set it off.

In order to make an extra roomy body, Rolls-Royce has built the floor of its town-car out over the springs at the sides. This model is another of the two-color exhibits. It is finished in cream and smoke gray. Like a good many of the foreign models, the fenders have an extra long sweep toward the rear. Another Rolls-Royce which is being featured is a five-passenger touring car.

Accessory displays were confined to tires and special automobile fabrics. They included the products of Sidney Blumenthal and Co., Grande Maison de Blanc, Para Tire Co., Vogue Tire Co., Wefco Co. and William Wiese & Co. Fabrics of American manufacture, in fact, constituted an important part of the Salon. While not exhibiting directly, for example, fabrics produced by the Laidlaw Co. were shown on 27 of the 35 American custom bodies displayed.

SELLING GOODS AT RETAIL

MANY merchants boosted sales appreciably during last Fall and early Winter by staging effective window displays about Thanksgiving time. There is every indication that the number of those availing themselves of this means of attracting public attention will be greater this year.

Such a display is simple to install. As has already been pointed out in these columns, plenty of dead leaves carpeting the floor, branches of trees and the use of a few pumpkins, will create the proper atmosphere.

These are simple, and effective. And the value of such timely exhibits cannot be overestimated. Thanksgiving is but two weeks off. So there is no time to be lost.

30 WORKING DAYS BEFORE CHRISTMAS

IN stressing the Christmas sales argument, the automotive merchant will find that his appeal must be directed in large part to women. For that women-folk do most of the buying for the family there is little question.

To aid him in making this appeal just as effective as possible, the dealer will do well to study the methods adopted by leading drygoods houses in his section. Many valuable lessons may be learned from their methods of displaying goods; the way they word their advertisements, the service they offer, and their general atmosphere.

The dry-goods house is the woman's store. Certain of its characteristics, however, might well be adapted to the automotive dealers' place of business to make that more attractive, not only to woman-kind, but to all.

30 WORKING DAYS BEFORE CHRISTMAS

THE prize in a salesman's contest staged by a large distributor recently, was awarded a man who at first glance possessed few of the qualifications of a star salesman. He had little so-called personality; he was small in stature and not particularly pleasing in general appearance.

The sales manager was asked about it. "All you say is perfectly true," he replied, "but you can sum it all up in one word 'persistence.' The man you refer to is the most persistent worker

I've ever known. Hence his success."

What is persistence? The Mather Spring Co. describes it as follows in

AS "SID" SNYDER SAYS

IT'S the feller that keeps pluggin' away that generally heads the list. He's not the kind that does much talkin'. He's too busy stickin' at his work.

* * *

You've heard a lot about the early bird. How he got on the job before his friends and relatives was out of bed. And he got the worm. But if he'd been a real hustler don't you think he'd of stuck around after the others had turned in so's he could 've picked up some of the grub they'd overlooked

one of its series of attractive messages: "Persistence consists of keeping on trying until you succeed. It comprises a spirit of getting right up

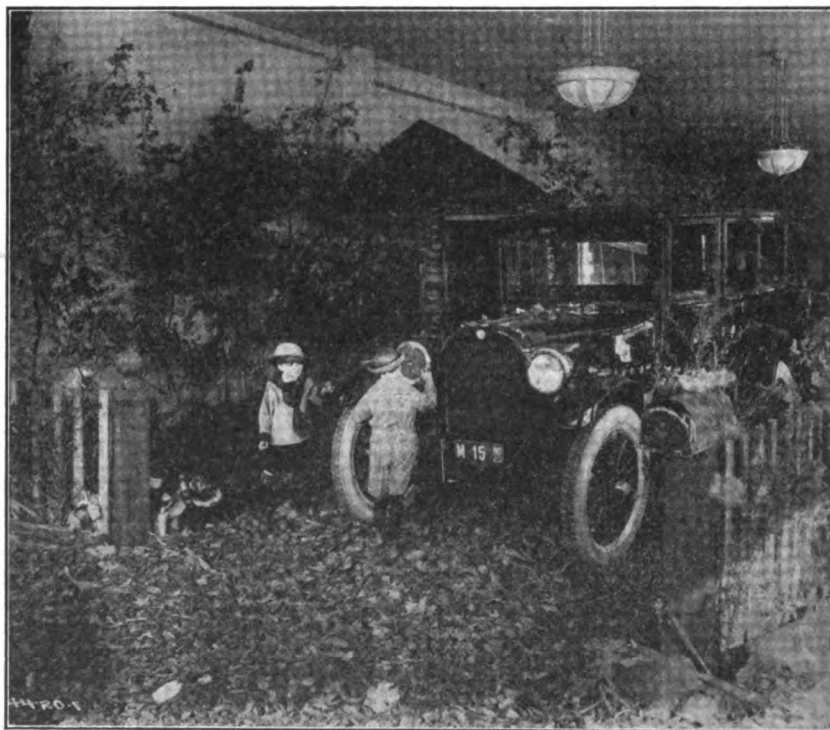
if you slip and tackling the job with renewed vigor."

30 WORKING DAYS BEFORE CHRISTMAS

MUCH effective publicity has been secured by automobile merchants who have kept new models parked before their doors, plainly placarded with the name, price, and such other information of interest.

There is every reason to believe that a similar plan might prove successful in attracting attention to used cars. For example, on one of the Country's largest automobile rows, a short time ago, there was noticed a neat-appearing car parked before a salesroom. This machine bore a placard on which was printed the following words: "This is a good used car—thoroughly overhauled and ready for use. Price is \$.... Come in and let us give you particulars."

As Fall Begins to Turn to Winter



Dead leaves and branches play an important part in this display which appears in the window of the C. H. Wallerich Co., Dodge Brothers merchant in Indianapolis

Longer the Day the Greater the Profits

"On the Job, Early and Late Makes the Little Business Great," Say Klepfer Brothers—Benefits Are Evident

WHEN, in the course of conversation about his business a man says, "We are the first ones on the job in the morning and the last ones to leave at night," it is safe to say he has a business worth talking about.

interests of the general public."

Coupled with its ideas about keeping steadily at it, the Company also has very decided policies about keeping in touch with its customers. For it has found that the satisfied customer

consideration, after having his money.

It is not surprising that with such ideas as these carefully carried out the Company should find it necessary to enlarge its facilities. This expansion has already taken place, residents of Buffalo being treated to a gala event in receiving invitations to inspect the Buick line for 1924 in its new home.

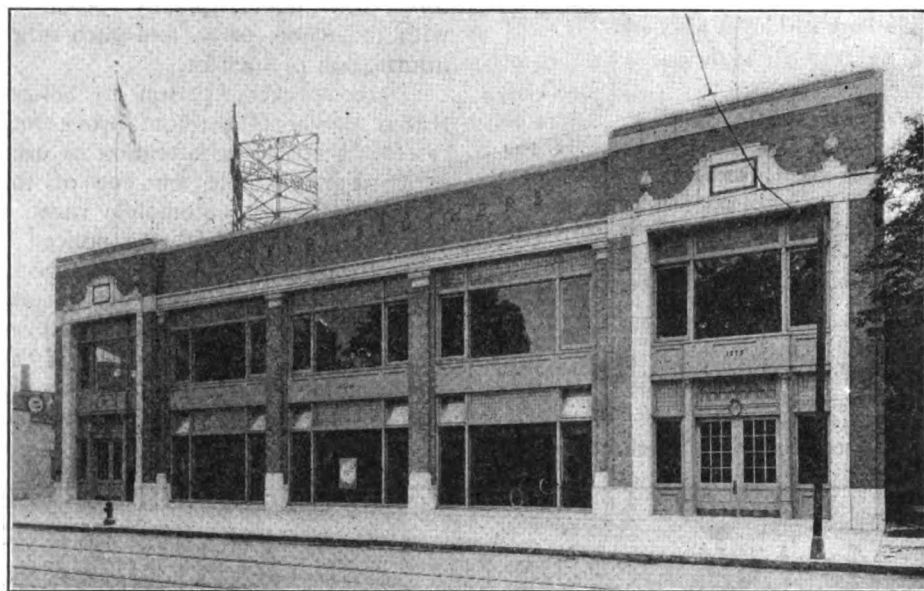
The new Klepfer building which is devoted entirely to Buick sales and service is located at 1575-1585 Main street. It is 307 feet deep and 125 feet wide and is constructed of brick and steel.

The service department is accessible because of the three entrances. All work is done by daylight in roomy shops which are equipped with modern tools and machinery.

This same impression of roominess is felt upon entering the salesroom. Here, ample space is available for exhibiting the various models. Decorations are simple but exceedingly attractive.

Some reasons for the success of this organization have already been described. There is one other which has contributed much. That is, the fact that half the staff of forty skilled mechanics have been employed by Klepfer Brothers for more than eight years.

This in itself is a good advertisement. For it is generally conceded



Building of Klepfer Brothers is well designed to offer Buick owners efficient service

Those are the exact words of Klepfer Brothers, well known in and about Buffalo, N. Y., as Buick representatives. And Klepfer Brothers have many things to show for their efforts.

In the first place, the Klepfer building is one of the finest of its kind in that section of the Country. Perhaps even more important than the building, however, are certain of the Company's policies. For, after all, it is the policies of any organization that determine its standing.

As has already been pointed out Klepfer Brothers are on the job early and late. They believe in the old proverb that "the early bird gets the worm." To this they have added one of their own, "And the bird who stays on the job late picks up what the others overlook."

That it pays to make a long day of it comes as the result of actual experience. "We found," the Company states, "that it was not possible to do business unless it was looked for and what is more, looked after in the best

is, after all, the most efficient salesman possible to procure.

To use Klepfer Brothers' own words: "We have found it very profitable and advantageous to meet the public. After we have sold a man



Simplicity is a feature of the salesroom decorations. Ample space is available for displays

a car, it is our desire to meet him occasionally, help him out of any difficulties, as well as show him some

that the company that gives its employees a square deal will treat its customers likewise.

PLENTY of light is provided in the service departments as is shown by the large windows on the Michigan avenue side of Klepfer Brothers' new building. Two entrances on this side of the building are supplemented by a service entrance on the Main street front.

Provision for the complete servicing of Buicks is included in the Klepfer station. On the main

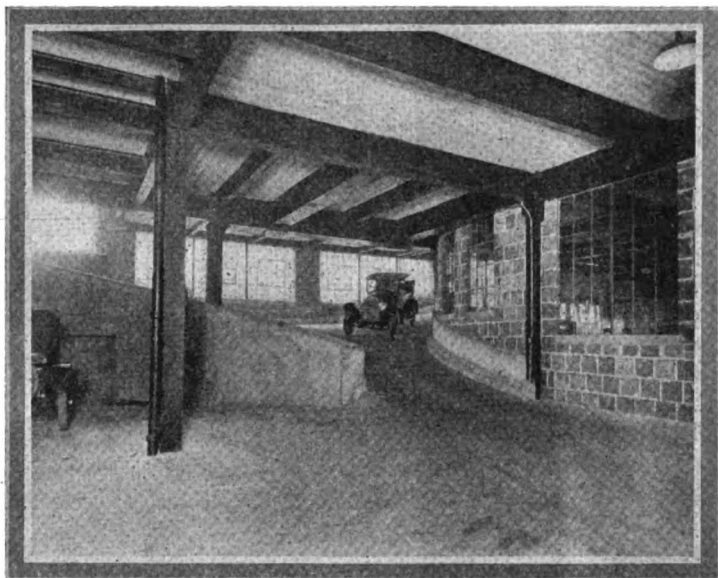


floor and second floor up-to-date equipment has been installed. In this connection it is worth noting that half of the staff of forty mechanics have been in the Klepfer employ for more than eight years. All of the service work is done without the necessity of artificial lighting.

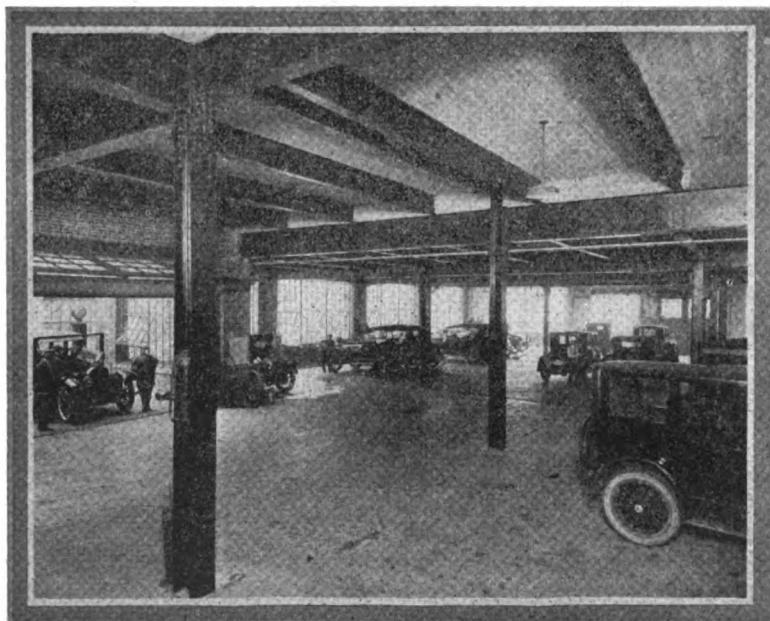
The building is 307 feet long and has a width of 125 feet

Buffalo Adds to Its List Buick Home Built by Klepfer Brothers

*Sales and Service Combined In New
Building; Ramps Replace
Elevators*



RAMPS take the place of elevators in moving cars from one floor to another. This has been found to be a highly satisfactory plan and one which facilitates service work. The service department floor is particularly roomy and free from obstructions. In designing this part of the



building, Klepfer used steel uprights which combined the maximum of strength with the minimum bulk.

Under such conditions it is not surprising that Klepfer Brothers have become one of the best-known and highly respected automobile merchants of Buffalo

They Sell Faster Out in the Open Air

Snow's Used Car Market Proves Value of Putting Bargains Before Public Eye—Sells 230 Cars in Seven Months

EVERYBODY in and about Ottumwa, Iowa, knows it as the Open Air Used Car Market. In reality, it is the used car department of the Snow Auto Co., Maxwell-Chalmers merchant.

It happens to be called the Open Air Used Car Market because Norlan Snow, president of the organization, visualizes the possibilities of merchandising good used cars on a larger scale than was possible under any roof available for such purpose.

"Instead of spending the time and money to get the public to come in your building to inspect used car offerings, why not bring the sale to them? Why not conduct it under their very eyes where they cannot help but see? Why not convince them that there are many good bargains to be had in used cars?"

Such was his argument. It sounded logical and ensuing events have proved it to be entirely so. Snow rented a vacant lot half a block away from his building where, since April 1, he has sold and delivered 230 used cars at a total value of \$70,000.

His success may have contributed to making Snow an optimist. There is every reason why it should have. In any event he is firmly under the belief that used cars are no problem, providing you know how to handle them.

His idea caught on quickly last April and it is still going strong. "October," he says, "was one of the best months we have had to sell cars and every one has been predicting for the last thirty days there would be no more cars sold

until Spring. But we go right on selling them just the same, and I think we will continue to do so, as we have done for the last ten years."

What has contributed more than anything else to the success of this plan, and what is necessary to produce results irrespective of the sales method, is giving the customer a square deal. This point Snow emphasizes strongly.

"We have had customers come and buy cars from us the second, third,

ing in the northern part of Missouri, know about it. Because of this wide reputation, the Company gets first crack at all of the second-hand or used car buyers throughout that section.

It has been already stated that the Company has sold 230 used cars since April 1, at a total valuation of \$70,000. Part of these were sold for cash, some on time payment, and so on. "But," says Snow, "we have always been able to secure good prices for our old cars

all through the season, even when other dealers had cold feet and were letting theirs go for a song to used car buyers from Des Moines. For instance, we have had a chance to sell a great many used cars to such people but in nearly every case they bid so low on the cars that we felt we could sell them for enough more to make a nice retail profit on them in addition to what they would give us for them."

There are many interesting phases of the plan which Snow describes as

follows: "In further explaining this situation, I might say that we keep one or two used car salesmen on the lot all the time to take care of the public, when it comes.

"We find that most of these sales of used cars are made to laboring people, although we do sell to some farmers and to some professional men. But the big bulk of our sales are from \$100 to \$350 and are made to the laboring people."

Norlan Snow has proved the value of bringing used cars to the public rather than endeavoring to bring the public to the cars. He has proved that they can be sold if properly offered.



There has been no accident of any kind. It's merely a crowd of prospective buyers inspecting the bargains offered at Snow's Open Air Used Car Market

fourth, and even fifth time," he stated. "That is, they run a car a couple of years and they trade it in on a better used car, and so on. In other words, we try to give a square deal on all of our sales so that the customers will come again when they are ready to buy the second, third, and fourth times. We have customers that would not buy automobiles from anyone else but the Snow Automobile Co., because they have always received fair treatment and good service."

The Open Air Used Car Market is widely advertised. Much publicity is given with the result that everybody about Ottumwa, as well as those liv-

CLOSED MODELS NEW TO THE MARKET

Velie Brings Out New Closed Model

Graceful Lines of New Four-Passenger Coupe Well Carried Out

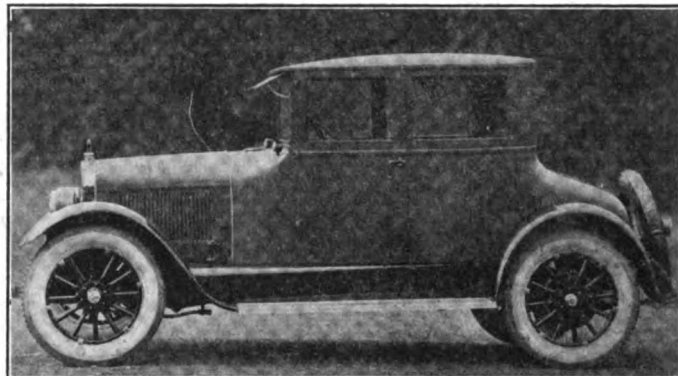
TO FILL the demands for a small enclosed job, the Velie Motors Corp., Moline, Ill., have added to the Velie "58" line a four-passenger coupe. This model, on which deliveries were begun this week, is listed to sell at \$1,845, f. o. b. the factory.

That which first attracts the eye in the new model is the harmonious lines which have been attained. From the radiator shell back over the rear deck a graceful curve is preserved. This is accentuated by the use of a molding which extends around the body just over the door handles. Drum type headlights in black and nickel, parking lights in the same design, and a sun visor are items of exterior fitting which round out the beauty of the new job. Spare tire is carried at the rear.

The arrangement of the passenger compartment is also well carried out. The driver is seated slightly ahead of the

two passengers adjacent to him while a fourth seat folds forward completely out of the way. In back of the driver's seat is a package compartment. Bulkier

EXCEEDINGLY
graceful lines
have been attained in the new Velie four-passenger coupe. A molding has been used to accentuate the body lines. Standard colors are either "Pelican Gray" or "Velie Blue"



upholstery is taupe mohair velvet with carpets and head lining to match. The wood trim is black walnut throughout, the instrument panel being made of the same wood.

Some of the niceties included in the body are a dome light, windshield cleaner, heater, and mirror. The coupe may be

articles may be carried in the rear deck compartment which is provided with a water-tight cover and sturdy lock. The

had in either "Pelican Gray" or "Velie Blue." Black wood wheels are standard equipment.

AFTER spending considerable time in development and experimental work, Millspaugh and Irish Corp. of Indianapolis have begun production on a two-door brougham body for use on the Dodge Brothers chassis. It is planned to supply this special body through the

Dodge Brothers Have Special Brougham

Millspaugh & Irish Corp. Producing New Five-Passenger Model

A trunk, mounted at the rear, carefully designed headlights and a sun visor are included in the standard equipment. Disc

per battery charge from 40-75 miles. Bodies are designed to meet the individual needs of the purchasers.

Finland Buying Cheap Cars

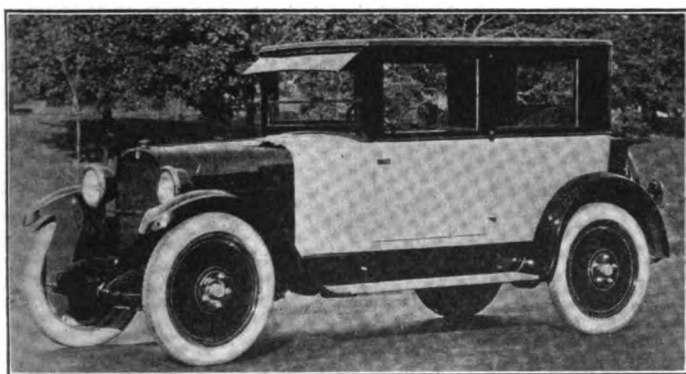
Low-priced American passenger cars are the most popular in Finland this year, according to consular advices. A limited amount of medium-priced American cars selling from \$2,400 to \$2,500 (when Finnish mark equalled .0277 September 10) found a market.

Film in Great Demand

Interest in the construction and operation of a gasoline engine has been shown by the demand for the moving picture film, "The Story of the Gasoline Motor," which was made under the direction of the Continental Motors Corp. This film is being distributed through the Bureau of Mines which reports a big waiting list in the Pittsburgh office of the Bureau.

Rollin Motors Adding Dealers

With the disclosure of its new car to the public fast approaching, the Rollin Motors Co. of Cleveland is taking on many new dealers. During the last week 17 automobile merchants joined the Rollin forces. Trade interest in the new product is running high.



STANDARD Dodge Brothers closed models are now supplemented by the special five-passenger brougham built by the Millspaugh & Irish Corp. This job is finished with trunk, drum type headlights and a sun visor

regular Dodge Brothers representatives.

Five passenger capacity with plenty of room for all is provided in the brougham. The rear seat is particularly spacious since the body measures 46 inches wide—inside measurement. Twenty-two-inch cushions are provided for this seat. The two forward seats are of the bucket type and fitted with coil back and cushion springs. They are particularly strong and well made. The upholstery used is heavy blue cloth while all the hardware is bright nickel finish. An aluminum finished floor heater is being provided.

wheels finished in black with a contrasting stripe are used.

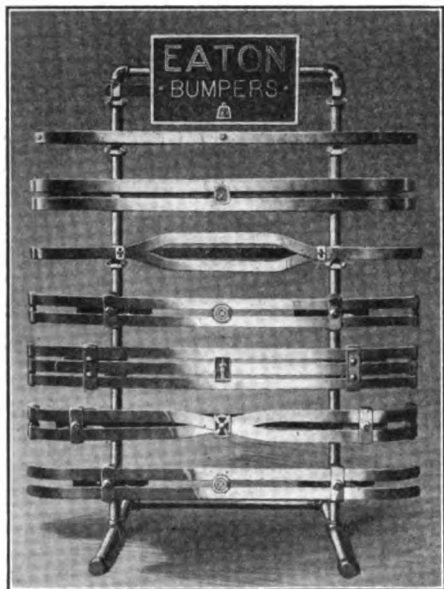
Electric Delivery Wagon Presented
Rich and Lang, Inc., Chicopee Falls, Mass., have placed on the market an electric delivery wagon. Without battery, which varies with the work to be done, the car sells for \$2,000 at the factory. The wheelbase of this model is 102 inches and the tread 56 inches; artillery type wood wheels equipped with 33 x 4½ cord tires are standard. The maximum speed is 22 miles per hour and the range

OFFERINGS OF INTEREST TO THE TRADE

"EXCALIBUR" LEADS NEW LINE OF EATON BUMPERS

Several new bumpers have been added to the line of the Eaton Axle and Spring Co., Cleveland, Ohio. This line was formerly known as the Cox bumpers. In order to make an effective display, the Eaton company is offering a special stand for the use of the retailers.

"Excalibur" is the name of a special de luxe model which leads the line. This model is distinctive and somewhat exclusive. It is the three bar type and bears a medallion of King Arthur with his Sword of Excalibur. Made of molybdenum steel, it surpasses in strength all of the previous models. Combined with strength there is lightness and great re-



Eaton bumper display stand

siliency. Made in one size only, it sells for \$40.

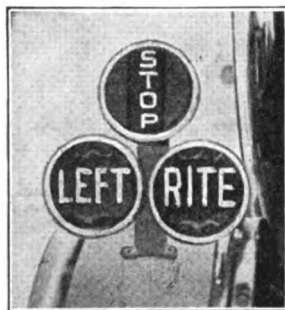
As a protection to the rear fenders, Eaton offers the "Bumperets." These are single or double bar guards mounted on a strong connecting bar which is stretched across the rear of the car between the body and the tire carrier. For the rear of cars with one or more spare tires, these allow easier parking and protect rear fenders and lamps without interfering with the removal or replacement of spares.

URNS AND STOPS SIGNED BY "CLOVERLITE"

Right and left turns as well as stops are shown by the "Cloverlite" direction signal. This is being offered by the Los Angeles Sales Co., 1211 W. 6th street, Los Angeles, Calif.

As the brake is applied the red stop

signal flashes and if a turn is to be made it is accompanied by either another red light for left turns or a green light for right hand turns. These latter signals



"Cloverlite" signal

are operated from the steering wheel where a double control is mounted. The button for right turns is at the right hand side of the control where the right thumb would normally rest. The left turn button is at the left.

Another feature of the "Cloverlite" is the pilot which shows whether the signal is working properly. When the signal is in operation a small bulb mounted on the steering column lights and remains lighted only as long as the signal is operating. Twenty-one candle power lamps coupled with polished silver reflectors and prismatic glass make the signal stand out even against sunshine.

"SLOW-STOP" SIGNAL OFFERED BY CASE

When the brake is applied the signal flashes—this is the operation of the "Stop-Slow" safety signal of the Case Manufacturing Co., Jackson, Mich. To



Case "Slow-Stop" signal

overcome the flashing of the word "Stop" with every movement of the brake pedal, this signal is so constructed that unless the car is actually going to stop, a green "Slow" signal flashes.

Further depression of the brake changes this to the red "Stop."

The switch used by the Case Manufacturing Co. is as near mechanically perfect as possible. The design embraces the use of the disc principle which assures a satisfactory contact when in operation. Proof against rust is attained by coating the switch with enamel.

All the materials used in the manufacture of the signal have been chosen for their lasting qualities and appearance. The bulbs used are standard headlight bulbs; 6-8 volts with 21 candle power. Reflectors are of polished nickel plate and the lenses so designed as to give the maximum power and efficiency. Electric wiring is heavy rubber coated cable.

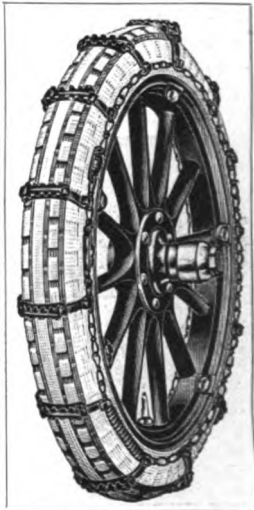
All the parts necessary for the installation of the signal are supplied and the job may be done easily by an inexperienced person, if the directions given are followed. The price of the signal is \$6.50 if finished in all black and \$7 for the model with nickel trim.

"DOUBLE GRIP" CHAINS AN AID TO WINTER DRIVING

"Double Grip" tire chains, made by the Woodworth Specialties Co., Binghamton, N. Y., are especially designed for use on Winter roads, gripping ice, snow and deep mud very effectively.

The cross members of the chains are made from thick sheet steel in such a way that as the wheel revolves two sharp corners first come in contact with the road. If the tire is not slipping the cross member lies flat as the wheels roll over it. If the wheel slips the cross member tips slightly making it dig into the ice, snow or mud. If the car begins to skid or slip sideways two sharp corners at the end of the cross member act as a check.

Springs in the side chains keep the whole assembly in adjustment. At the other end of the side chains there are snaps to keep the unused links from dangling. Since the cross members are less than one-half inch thick there is no bumping even when they are used on pavement. The prices range from \$5 to \$9, depending upon size.



"Double Grip" chains

WITH THE WHOLESALERS AND RETAILERS

SIMONS SALES SHOW BIG INCREASE IN OCTOBER

Detroit Overland Distributer Sells Almost 65 Per Cent Closed Cars

October was a record month for the Simons Sales Co., Detroit distributer for Willys-Overland products, sales running 143 per cent above the total of the corresponding month last year. Close to 65 per cent of the month's business was in closed cars, President Guy O. Simons stated.

During the ten months ending with October the Simons company has delivered 7,117 Overland and Willys-Knight cars. A year's total of 8,000 is anticipated, as against a contract quota of 7,000 for the calendar year. In anticipation of equally good business conditions next year, it is said the quota for 1924 has been increased to 14,000 cars.

Packard Has New Detroit Home

A large building is being erected at the southwest corner of Jefferson avenue and St. Antoine street, Detroit, to house the Detroit sales organization of the Packard Motor Car Co. The structure is of stone and embraces many novel features.

Ford Dealers Hold Open House Week

Northern California Ford dealers will hold a special display week in their respective locations from November 19 to 25. Each of the 296 Ford dealers in that section will throw open his entire establishment, appropriately decorated, for inspection by the public and various civic organizations of the communities. The entire San Francisco assembling plant at 21st and Harrison streets will be open for inspection.

Don Lee Sales Break Records

Cadillac sales in California during October have proved record breaking, according to Don Lee, distributer for the State. More new cars were sold than during any previous October in the history of the business, 270 of the new V-35 models having been delivered.

New Star Distributer Named

Western Motors Company has received selling contracts from the Star Motor Company of California. The concern will distribute Star cars throughout San Francisco from headquarters located at 2000 Van Ness avenue and 1530 Market street.

Ray Made Federal Branch Manager

Thomas M. Ray has been appointed manager of the San Francisco branch of

the Federal Motor Truck Co., succeeding J. H. Hartzell, who is also Western representative for the concern. Ray is thoroughly familiar with the Federal line, having gained his experience as a dealer. He was formerly connected with the Pacific Coast organization of the Hudson Motor Car Co. Sales and service headquarters of the Federal branch will soon be located in its new building on Howard street.

IN THE TRADE

EASTERN STATES

MAINE — SKOWHEGAN. — Somerset Machine company has secured selling contracts for Nash cars in this territory.

WATERVILLE. — Waterville-Nash Company has obtained a franchise from the Nash Motors Company to handle its product.

MASSACHUSETTS — MILFORD. — Motor Equipment Company has been appointed by the Nash Motors Company to handle Nash cars in the surrounding territory.

NORTH ADAMS. — George J. Crosier has been awarded distributing rights for Nash motor cars in this part of the state.

CONNECTICUT — DANBURY. — Lake Automobile Company has been appointed dealer by the Nash Motors Company.

DEEP RIVER. — A. R. Jones Garage Company has secured selling franchises for Nash automobiles in this territory.

NEW YORK — MASSENA. — Winsor A. Taylor has been granted distributing contracts by the Nash Motors Company.

NEW YORK. — Harry Cahn has sold his new two-story garage at 540 and 542 West 125th street to Abraham Luger.

UTICA. — McRorie-Sautter Motor Car Company, located at 122 Seneca street, has obtained selling franchises from the Chandler Motor Car Company to handle its product in this vicinity.

NEW JERSEY — SUMMIT. — Nash-Summit Motor Co., Inc., has been appointed dealer by the Nash Motors Company.

PENNSYLVANIA — BLAIRSVILLE. — F. T. Lowman has been awarded selling contracts for Nash automobiles in this part of the state.

DELMONT. — S. W. Barton has secured distributing rights for Nash cars in this and surrounding territory.

EMPORIUM. — General Garage has been appointed to handle Nash cars in this vicinity.

LEWISBURG. — With headquarters at 14 South Sixth street, Roth & Gordon have obtained selling franchises for Chandler motor cars in this territory.

MILTON. — R. B. Fenstermacher, located on Broad street, has been appointed by the Chandler Motor Car Company to handle its product in this and neighboring territory.

RURAL VALLEY. — Valley Motor Company has been appointed dealer by Nash Motors Company.

SCOTSDALE. — Belstel Brothers have secured distributing contracts for Nash automobiles in this part of the state.

DISTRICT OF COLUMBIA — WASHINGTON. — With headquarters located at 1419 Irving street, the Nash-Rinker Motor Com-

(Continued on page 52, first column)

MARYLAND CLUB OPENS TIRE SERVICE STATIONS

Starts in Baltimore Planning Statewide System

A statewide system of tire service stations designed especially to benefit its members is projected by the Automobile Club of Maryland, which has already established its first station in Baltimore. The station at the place of Herbert S. Michael, Inc., northeast corner of Charles and Lanvale streets, is available to members in good standing between the hours of 7:30 A. M. and 6:30 P. M. weekdays and 9 and 1 on Sundays and holidays.

Any member needing tire service within these hours may telephone from any place within a ten-mile radius when a man will be sent with whatever supplies are needed. Service is free except for replacement goods. Free service also includes calls to change tires when no purchase is made.

"Scout" Wins Rickenbacker Contest

"Scout" was the prize winning suggestion of J. H. Tolle of Deming, New Mexico, in the contest to determine a new name for the Rickenbacker roadster. More than 10,000 suggestions were received in response to short statements announcing the contest in about 500 newspapers.

Charlotte Flint Co. Organized

John H. Bolton has organized the Charlotte Flint Company to distribute the Flint Six in South Carolina and Western North Carolina. Headquarters are located at 306 North Tryon street, Charlotte, N. C.

OVERLAND RETAIL BRANCH IS UNDER NEW MANAGEMENT

L. C. Taylor Takes Charge at Danville, Illinois House

L. C. Taylor and associates have purchased the retail branch of the Overland Motor Co., Chicago distributer of Willys-Overland products. They assumed charge at the branch in Danville, Illinois, on November 1, and will continue to handle exclusively Willys-Knight and Overland cars.

Taylor has been connected with Overland sales for the last ten years. The past five years he has managed the retail department of the Chicago establishment. Danville branch will carry a full line of cars and a well assorted stock of accessories; it is also laying plans for expansion.

IN THE TRADE

(Continued from page 51, second column)

pany has obtained selling rights for Nash motor cars in this vicinity.

SOUTH

VIRGINIA—CLEVELAND.—Jessee's Department Store has been awarded a selling franchise for Nash automobiles in this and surrounding territory.

FERRUM.—Ferrum Motor Company has been appointed dealer by the Nash Motors Company.

WEST VIRGINIA—KEYSER.—G. E. & W. D. Wagoner have secured distributing contracts for Nash cars in this territory.

MONTGOMERY.—Montgomery Oldsmobile Company has been appointed by the Nash Motors Company to handle its product in this vicinity.

NORTH CAROLINA—MT. AIRY.—J. A. Brown has been granted a selling franchise for Nash motor cars in this and neighboring territory.

GEORGIA—HOGANSVILLE.—George R. Rakestraw has taken on the Nash line of automobiles in this part of the state.

ALABAMA—STEVENSON.—W. D. Timberlake has obtained selling rights for Nash cars in this and surrounding territory.

KENTUCKY—HAZARD.—Hazard-Oakland Company has been granted distributing contracts for Chandler motor cars in this city.

LEXINGTON.—H. V. Rouse has secured a franchise for the sale of Chandler automobiles in this part of the state.

MIDDLEWEST

OHIO—ASHLAND.—Located on East South street, Brown & Son have obtained selling rights for Chandler cars in this vicinity.

BELLEFONTAINE.—Earliest M. Cronley, with headquarters located at 133-135 North Madriver street, has taken a franchise for the Nash line of cars in this and neighboring territory.

CLEVELAND.—With headquarters at 1412 West 118th street, the Nunn Motor Sales Company has obtained distributing contracts for Nash automobiles.

LIMA.—Located at 133 East Spring street, the Woodward Auto Sales Company has been appointed dealer by the Chandler Motor Car Company.

PORT CLINTON.—Wolfe & Stensen have obtained a selling franchise from the Chandler Motor Car Company to handle its product in this vicinity.

VAN WERT.—C. A. Woodard has been appointed by the Chandler Motor Car Company to handle Chandler motor cars in the surrounding territory.

INDIANA—COLUMBUS.—With its headquarters located at 536 Jackson street, the Sawin Garage has taken on the Chandler line of automobiles in this city.

CRAWFORDSVILLE.—Citizens Auto Company, at 309-11 South Washington street, has secured distributing rights for Chandler motor cars in this and neighboring territory.

FRANKLIN.—Ossie Eades has been granted a franchise for Chandler cars in this part of the state.

INDIANAPOLIS.—James Henry has opened a garage and repair service station at 315 West Sixteenth street.—A garage has been opened by Benjamin F. Stuttle at 916 East Twenty-third street.—T. R. O'Donnell & Company have moved their offices and garage to 1503 West Washington street.

Wischmeyer Brothers Garage will soon open at 2222-2224 Bethel avenue.—L. T. Allen has opened salesrooms at 615 North Meridian street for Overland cars.—A. L. Hoch and A. Kennedy have opened a garage at 1825 Shelby street.

Carl L. Johnson has opened a garage at 340 North Sherman drive.

MADISON.—Located at 305 West Main

street, the Kirgan Auto Sales Company has secured distributing rights for Chandler motor cars.

NORTH VERNON.—North Vernon Garage has been granted a selling franchise for Chandler automobiles in this city.

SEYMOUR.—With headquarters at 304-307 Ewing street, J. M. Phillips has been appointed by the Chandler Motor Car Company to handle its product in this vicinity.

SHELBYVILLE.—E. A. Talbert, located at 26 West Jackson street, has obtained a distributing contract for Chandler cars in this territory.

ILLINOIS—DEKALB.—"Heb" Manufacturing Company has been awarded a selling franchise for Chandler motor cars in this part of the state.

MICHIGAN—CHARLOTTE.—H. H. Bryan and Sons Garage has been sold to B. J. Fowler and Son.

WISCONSIN—HAYWARD.—A garage will soon be opened by the Dehler Motor Company.

LAMARTINE.—A. G. Culver will soon open a garage.

MADISON.—Paul A. King has opened a garage at 12 South Butler street.

WEST SALEM.—Doyle & Larson have secured distributing rights for Chandler cars in this and neighboring territory.

WISCONSIN RAPIDS.—James C. Jensen has sold his interest in the garage business of Jensen & Anderson to William F. Anderson.

MISSOURI—BOLIVAR.—Chevrolet Motor Agency has been sold by Viles and McNabb to the Eldson Brothers. The new owners will carry a full line of accessories.

FAYETTE.—Bell Garage Company has been purchased from the Bell Estate by H. D. Adkisson.

INDEPENDENCE.—Englewood Supply Company has been purchased by R. H. Montague. The new owner has bought the interest of E. K. Carnes, Jr., and is now sole proprietor.

KANSAS CITY.—Quick Tire Service Company will occupy the new building being constructed on the southeast corner of Southwest Boulevard and Baltimore avenue.

KIRKSVILLE.—Edgar B. Sloan has been appointed by the Chandler Motor Car Company to handle its product in this vicinity. Headquarters are located at 502 Jefferson.

PALMYRA.—Gillson Motor Company is having a new storage garage constructed.

PLEASANT HILL.—A garage is being constructed for S. Winkler.

POPLAR BLUFF.—Barnett Auto Sales Company will soon move to new headquarters in the Berryman Kennedy Building at Fifth and Cherry streets.

ST. CHARLES.—A. R. Dockwerth has purchased the Willard Storage Battery station at 815 Clark street.

ST. JOSEPH.—Flynn-Guenther Rubber Company has opened its sales depot at 1102 Farcon street.

ST. LOUIS.—A two-story brick garage is to be built at 3732 Washington boulevard.—Russell Auto Sales Company has been opened for business.

SALEM.—W. R. Peck will soon have a garage erected.

SPRINGFIELD.—Haskett-Motor Company has moved to the Pierce Garage at College and Main streets. It has leased showroom quarters for displaying the Jewett line of motor cars.

KANSAS—ALTAMONT.—Frank Dwyer has purchased the interest of his partner, Taylor, in their garage.

ERIE.—K. T. Garage will soon be enlarged. The new addition will be erected on the south side.

GREENLEAF.—Jay Potter has taken the agency for the Exide Battery and will be located at the Hansroth Garage.

KANSAS CITY.—Don's Motor Shop is now

established in its new location at 709 North Seventh street.

HAVEN.—Tenn Brothers will soon open an electrical and automobile repair business.

JUNCTION CITY.—Humphrey Motor Company is moving into its new quarters in the Dewey Building, at 915 North Washington street.

KINGSLEY.—Theodore McAdoo has sold his tire business to S. E. Bear.—William Walters and F. I. Walters have taken over the Lurp Motor Company.

McPHERSON.—B. Sweeney has secured the old Buick Garage on North Maple street. He will soon open it as the Sweeney Auto Storage Company.—B. White has purchased the interest of his partner, A. Darrah, in the Kansas Motor Company.

OTTAWA.—Ottawa Buick Company has
(Continued on page 54, second column)

NEWSPAPER SAY SO

ABOUT BUSES

... The question of municipal ownership and operation of the bus lines will never be definitely decided until a referendum is had. Meanwhile, no one disputes their value as supplementary passenger vehicles. . . .

... Applications were made for licenses for omnibus lines in the city of Summit . . . on routes not traversed by trolley lines. These were promptly granted. Then applications were made for licenses along streets already occupied by trolley lines and to places served by the latter. These, after careful consideration and public hearings, were refused.

Three reasons for the refusal were given. One was that no necessity for the omnibus service had been shown. A second was that it would be unfair to the city to grant such use of its streets without compensation. The third was that it would be unfair to the trolley company, to which the city had granted a franchise, and which had invested a large amount of money in tracks and plant by which the city was benefited; the city, it was held, owing to the company to which it had granted a franchise protection from unfair competition. The trolley company, it was pointed out, was required to keep a considerable portion of the streets well paved and to clear them of snow, while the omnibus lines would do neither of these things, but would have them done for them, either by the city at its own expense or by the trolley company with which they were competing. . . .

... It is inequitable and unethical for a city to license omnibuses to compete with the trolley lines on the very streets on which the latter were chartered to operate and on terms of exemption from the heavy obligations imposed upon the trolley companies. . . .—NEW YORK Tribune.

... Who is going to put money into public utilities subject to the injurious or ruinous competition of bus lines? There is plenty of scope for these without such competition. . . .—NEW YORK Times.

... Apparently the competing motor-bus men want the trolleys to stay, and that for the same reason that the parasite wants its host. They want the trolleys to maintain that broad strip of the mid-highway for which franchises commonly charge the easement holders with the upkeep. They desire to have trolley snow plows clear the way in winter—for them. They wish the traction interests to go on paying taxes—lest these be charged against them, the heaviest wearers of the street surfaces. . . .—NEW YORK Sun and Globe.



United States Tires are Good Tires

The Best Proposition In The Tire Business Today

MORE and more tire merchants are coming to the conclusion that concentrating on U. S. Tires is the best way to build a permanent and profitable retail tire business.

The U. S. line is complete—fairly priced—well known—saleable.

The U. S. policy enables a dealer to anticipate his requirements,

carry an adequate stock and make a good profit.

In what other line can you find such outstanding values as the—

United States Royal Cord

The New Usco Cord

Usco Fabrics

G. & J. Cords

United States Solid and
Pneumatic Truck Tires

Traxion Tread Motorcycle
Tires

and

United States Bicycle Tires

United States Tires

United States  Rubber Company

AIDS TO SALES ABROAD

Surveying the markets for automotive products in foreign fields, the Department of Commerce this week points to the reports listed below. Culled from the finds of the Department representatives in many lands, the information here is passed on as particularly interesting to those of the American industry who bid for sales abroad. The following thus summarizes the situation:

AUSTRIA.—The market for American cars while far better than a year ago is still small.

BRAZIL.—Higher prices resulting from depreciation of the milreis has adversely affected sale of cars since June. September imports showed, however, an improvement over August. With the end of the rainy season the roads will be more suitable for motoring during the last quarter.

CANADA.—The automobile market was good during third quarter. Automobile shows held at Kingston and Montreal stimulated business. Large wheat crops, and increased industry and employment have improved trade conditions. Interest is being shown in higher priced and closed models. Owing to seasonal changes, usual falling off in sales is expected during last quarter of the year.

CHILE.—There has been a fairly satisfactory movement of medium-priced cars during third quarter, although this is the dull season. High-priced cars are slow sellers. The coming Summer season is expected to see increased buying.

CUBA.—A Samples Fair is to be held in Havana in February which will no doubt have a stimulating effect on business in general. Winter months are normally the best months for sale of automotive products.

DENMARK.—Sales of passenger cars and motor cycles during third quarter have been moderately heavy though probably fewer than in second quarter. Owing to seasonal influences the market is expected to show further decline in last quarter, although sales should be greater than in same period of 1922. The truck market is particularly dull.

HONDURAS.—General economic depression during third quarter is result of partial failure of banana and sugar crops.

HONGKONG.—An increase in trade is expected during the last half of the year.

HUNGARY.—Government limits imports of automobiles to 30 complete cars and 60 chassis for each quarter. This will limit exports of American cars to those having established representatives since the allotment is divided among representatives and not by country of origin. American share will be less than the European as fewer cars are represented.

LATVIA.—Trade conditions though much improved during the past two years hardly admit of any considerable extension in the automotive trade at the present time.

NORWAY.—August automobile imports numbering 253 show a 48 per cent decrease compared with July imports—489.

PERU.—Passenger car sales reached peak for year during third quarter and money was more plentiful, owing to income received from sale of national products. Sales were confined principally to low and medium priced cars. The truck market is small. Imports of accessories showed a satisfactory increase. Sales are expected to be moderately good during the last quarter, though not equal to those of the previous one.

PORTUGAL.—American cars are popular, but depreciated currency makes introduction of new makes and new accessories difficult.

SWEDEN.—September automobile imports amounted to 979, a 27-percent decrease as compared with August imports. Proportionately great number of the larger cars absorbed by this market with good sales expected for American cars next year.

UNION OF SOUTH AFRICA.—Automobile trade enjoyed increased motor vehicle sales during third quarter, but for last quarter a slackening is expected.

UNITED KINGDOM.—As was anticipated for July quarter, passenger car sales have been good. Automobile supply and motor cycle demand has been steady, but truck market remains depressed. Small foreign stocks are on hand, but are probably sufficient for the balance of the year. Increased purchasing for Spring delivery is expected to result from the motor shows held during the final quarter.

IN THE TRADE

(Continued from page 52, third column)

purchased the Pratt and King Battery Service Station at 119 East Second street.

RUSSELL.—H. F. Fairchild has purchased the Wallis Brothers Garage.

SALINA.—R. T. Brown Battery Company has moved to Seventh and Elm streets.

TROY.—B. C. Barth has purchased the Larzelere garage from R. G. Larzelere.

NEBRASKA—GRAND ISLAND.—I. K. McFarland has withdrawn from the Nellen Auto Company. Neils E. Neilson and C. Jensen will conduct the business in the future.

KEARNEY.—G. Pierce has taken over the Chevrolet agency for this district.

PAPILLION.—William Eaton has sold his garage to William Sorrenson.

SCHUYLER.—Frank J. Rychtig has sold his half-interest in the Rychtig Brothers Garage to Adolph Rychtig.—Frank Held has sold the Willard Battery station to F. Sprague.

SCOTTSBLUFF.—Ayers Brashear Garage has been moved to the E. R. Klingman building.

NORTH WEST

MINNESOTA—AUSTIN.—H. P. Laslett has purchased the Austin Auto Company.

NEW RICHLAND.—C. E. Woodhall & Co. garage has been sold to John Manthey and Son.

ST. CLOUD.—Durupt Motor Company has purchased the Graham Motor Sales, located at 1020 St. Germain street.

ST. PAUL.—Muessel Motor Company will soon move to new headquarters at 1790 University avenue.

WAVERLY.—Arthur Davo Garage has been sold to Joseph Chevalier.

SOUTHWEST

ARKANSAS—CAMDEN.—Carl Burkett, as proprietor of the Wonder State Motor Service, has secured the agency for Packard motor cars in this section.

EL DORADO.—Sidney Crisp has purchased an interest with Frank H. Smith in the new garage at 215 West Main street.

R. B. Daniels has sold the El Dorado Battery and Tire Service Station at Hill avenue and Elm street, to L. E. Johnson. The firm will be known as the Johnson Battery and Vulcanizing Company.

IMBODEN.—Firm of Bottoms & East has been mutually dissolved. J. H. East will continue the business under the name of East Motor Company.

LEACHVILLE.—W. G. Petty has purchased lots on the north side of the northeast corner of Main street and the railroad right-of-way. He plans to erect a large garage building on the corner.

LITTLE ROCK.—Freeman & Freeman building at the corner of Capitol avenue and Arch street will soon be opened. The company handles Lincoln cars and parts.

MORRILLTON.—T. H. Whitfield has opened his business with all kinds of equipment to do electrical repairing, including battery charging.

PINE BLUFF.—J. T. Oaks has opened

headquarters of the Drive-a-Ford Company at 202 West Barraque street.

POCAHONTAS.—W. E. Jones has purchased the interest of R. E. Riggs in the Ford agency. The business will be conducted under the firm name of Jones Brothers.

OKLAHOMA—ALVA.—Maroum and Bransom Tire Shop has installed a vulcanizing machine.

CLINTON.—Partnership heretofore existing between George Hallifax and C. C. Chandler, under the firm name of Hallifax Garage, has been dissolved.

CNECOTAH.—Bunner Service Station has been opened by A. A. Smith and Sons.

COPAN.—Arlie Bellmyre is building a new garage.

HOLDENVILLE.—E. Brown has purchased an interest in the Buick Garage.

LAWTON.—Wolverton Brothers has sold their battery service station to Soper Brothers. The equipment has been moved to its new location in the Cox Garage on C. avenue.

MEDFORD.—Star Garage has moved from South Front street to a building on West Cherokee street.

NEWKIRK.—R. H. Austin has taken over the battery station in the Newkirk Garage.

NORMAN.—G. M. Regnier has purchased the Norman Battery Company at 229 East Main street from C. I. Shears and Pinkney Green. Regnier will install new equipment in the battery and automobile repair shop.

NOWATA.—J. Harrison and W. A. Graham have leased the Greenwood Garage and will soon operate a repair shop and storage room.

OKEMAN.—Sumpter-Burton Motor Co. has purchased the Custer Tire Service Shop. The concern will handle Star and Durant cars.

OKMULGEE.—L. H. Riley and E. B. Riley have purchased the interest of Clay G. Smith in the Clay G. Smith Motor Company.

PAWNEE.—Roy Gilmore has purchased the interest of D. C. Hatfield in the Gilmore-Hatfield Motor Company.

PERRY.—Harbaugh & Swart Service Station has been opened for business.

PICHER.—A. Besse, owner of the garage building at First and Main streets, is en-

(Continued on page 58, third column)

FOREIGN OPPORTUNITIES

Reserved information may be obtained from the Bureau and its district and cooperative officers by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquiries; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Inquiries should be addressed to the Bureau of Foreign and Domestic Commerce, Washington, D. C., or to any of its following branch or cooperating offices: New York, 734 Customhouse; Boston, 1801 Customhouse; Chicago, 1424 First National Bank Building; St. Louis, 402 Third National Bank Building; New Orleans, 214 Customhouse; San Francisco, 307 Customhouse; Seattle, 848 Board of Trade; Cleveland, Chamber of Commerce; Chattanooga, Foreign Trade Secretary Southern Railway System; Cincinnati, Chamber of Commerce; Los Angeles, Chamber of Commerce; Philadelphia, Chamber of Commerce; Portland, Ore., Chamber of Commerce; Dayton, Chamber of Commerce; Pittsburgh, Chamber of Commerce.

Automobile accessories for low-priced cars.—Cape Province, South Africa. Purchase.—File 8036.

Automobiles.—Potosi, Bolivia. Agency.—File 8080.

Automobiles and accessories.—Sedan, France. Purchase and agency.—File 8091.

Lubricating oils.—Antofagasta, Chile. Exclusive agency.—File 8083.



THE “final drive” of a motor car — where the wheels are actually turned — lies inside the rear axle housing. It *must* respond at all times. Some of the shrewdest engineers have found their answer in Brown-Lipe-Chapin gears. If you have a problem, we can help you.

Manufactured at Syracuse, N. Y.

BROWN-LIPE-CHAPIN

DIFFERENTIALS — BEVEL DRIVE GEARS



INCORPORATIONS

NEW YORK.—Harlem Motor Haulage, Manhattan, N. Y. To do trucking. Capital \$5,000. Incorporators: H. Serlin, A. Guidak, I. Christen.—New York Auto Bus Mfg. Corp., Manhattan, N. Y. Capital \$20,000. Incorporators: A. J. Farraro, H. Kopp, J. Pavlick.

Bronx Bus Co., Bronx, N. Y. Capital \$9,000. Incorporators: L. Rossler, J. F. Cogan, T. G. Walsh.—Guido & Laurie Garage Corp., Bronx, N. Y. Capital \$10,000. Incorporators: S. Heller, G. Laurie, A. R. Cinque.—Kellow Auto Corp., Bronx, N. Y. Capital \$5,000. Incorporators: S. J. Poison, L. Eisner, B. Levy.

Queens Trucking Service, Bronx, N. Y. Capital \$1,000. Incorporators: F. Duffy, H. Cornfield, R. Gordon.—Riccardo Motor Car, Bronx, N. Y. Capital \$10,000. Incorporators: P. Riccardo, V. J. Riccardo, C. M. Kukelhorn.

Krause Garage, Brooklyn, N. Y. Capital \$10,000. Incorporators: J. Krause, S. Kaplitosky, S. H. Feinson.—Subway Garage, Brooklyn, N. Y. Capital \$10,000. Incorporators: G. Steyer, L. Mitelman.

Flushing Flint Co., Queens, N. Y. To handle automobiles. Capital \$10,000. Incorporators: A. M. Bohn, H. M. Kruse.—Jamaica Flint Co., Queens, N. Y. To handle automobiles. Capital \$10,000. Incorporators: B. Bash, J. J. Thomas, A. L. Laegen.

Koehler Trucking Co., Richmond, N. Y. Capital \$7,500. Incorporators: A. Pollak, B. Pollak.

Fischer's Amherst Garage, Amherst, N. Y. Capital \$20,000. Incorporators: T. L. Fischer, E. M. Fischer, E. E. Fischer.

Lindell Park Garage Corp., Long Beach, N. Y. Capital \$10,000. Incorporators: A. Grossman, W. H. Lilly, H. Lilly.

Cross-Bay Bus Co., Neponsit, N. Y. To conduct a bus line. Capital \$50,000. Incorporators: I. B. Martin, J. F. Martin, Jr., W. F. Haderler.

Decker & Carella, Springfield, N. Y. To do trucking. Capital \$2,000. Incorporators: P. H. Carrella, L. E. Decker.

T. R. Taxi, Watertown, N. Y. Capital \$1,250. Incorporators: D. E. Guilfoyle, A. C. Guilfoyle, T. P. Guilfoyle.

DELAWARE.—Benton County Hardware Co., Wilmington, Del. To deal in automobiles, trucks, etc. Capital \$1,000,000.

MASSACHUSETTS.—Riddock Rubber Corp., Malden, Mass. Capital \$25,000.

OHIO.—Blue Bird Cab Co., Cincinnati, Ohio. Capital \$10,000. Incorporators: William W. Wyman, J. E. McLoney.

Magee Signal & Gauge Co., Inc., Cleveland, Ohio. Capital \$5,000. Incorporators: W. C. Magee, Luella A. Magee.—Manary Trucking Co., Cleveland, Ohio. Capital \$10,000. Incorporators: Orlo L. Prior, Wallace Blair.

ILLINOIS.—Hyde Park Motor Sales Co., Chicago, Ill. To sell, repair, manufacture automobiles, motor vehicles, etc. Capital \$40,000. Incorporators: John E. Cornice, Dennis J. Moland, John C. Warren.—Mapp Motors Co., Inc., Chicago, Ill. To buy, sell, repair automobiles, motor vehicles and accessories. Capital \$10,000. Incorporators: William C. Fahsnyder, H. J. Mapp, George R. Helwig.—Rieger Motor Livery, Inc., Chicago, Ill. To operate, rent and furnish motor vehicles, etc. Capital \$5,000. Incorporators: Geo. Rieger, Clara Rieger, Louis Holz.

MICHIGAN.—Bob Wilcox Motor Co., Owosso, Mich. To handle accessories. Capital \$10,000.

WISCONSIN.—Standard Motor Parts Co., Racine, Wis. Capital \$25,000. Incorporators: W. Cline, W. Sage, M. Kuchmanan, Jr.

KANSAS.—The Battery Equipment & Supply Co., Wichita, Kans. Capital \$25,000. Incorporator: George E. LeKree.

MINNESOTA.—The Stillwater Motor Co., Stillwater, Minn. Capital \$50,000. Incorporator: Knute Levine.

SOUTH DAKOTA.—Leavitt, Huyler, Nash Co., Sioux Falls, S. D. Capital \$25,000. Incorporators: H. G. Huyler, F. W. Schults, Lewis Huyler.

HOUSE ORGAN KEYNOTES

The paths of speeding lead but to the grave.—Willis-Overland Starter.

The best investment you can make is time or money spent in bettering your personal equipment.

For your personal equipment—your fitness to do a job—is the only thing you are hired for.

If you are content to limit your personal equipment you are content to limit the field of your achievements.

If you are content to limit knowledge of your business, your faith in its purpose and future, you are content to limit yourself.

If you are content to limit your hands to just so much work of a certain kind every day, you will never be fitted to do more work or better work of any kind.

Learn if you want to earn!

Your personal equipment is the only barrier you have to surmount to make your field as wide as the world.

If your knowledge is limited, remove the limitation by study. If you are handicapped by bad health, you can remove this limitation by rigid living.

An hour a day spent in studying the work of the man above you will put you that much nearer his job.

A few minutes a day exercising forgotten muscles will give you a body strong enough to house your ambitions.

You cannot better your job if you do not better your personal equipment—your ability to do more and better work.—Durant Success.

When a man calls another the biggest fool in the world he sometimes forgets himself.—Motor Coach.

It's great to be in business for yourself; but any man who thinks he is in business for himself alone, and not for everybody he does business with as well, soon finds that he isn't in anything but business. That life is flowing by, leaving him in a puddle.—Gray Goose.

The link between the locomotive and the car is but a two-inch band of iron, but it pulls the mighty train over plain and mountain and carries the commerce of the nation.

All great accomplishments have as their foundation the careful doing of little things called detail.

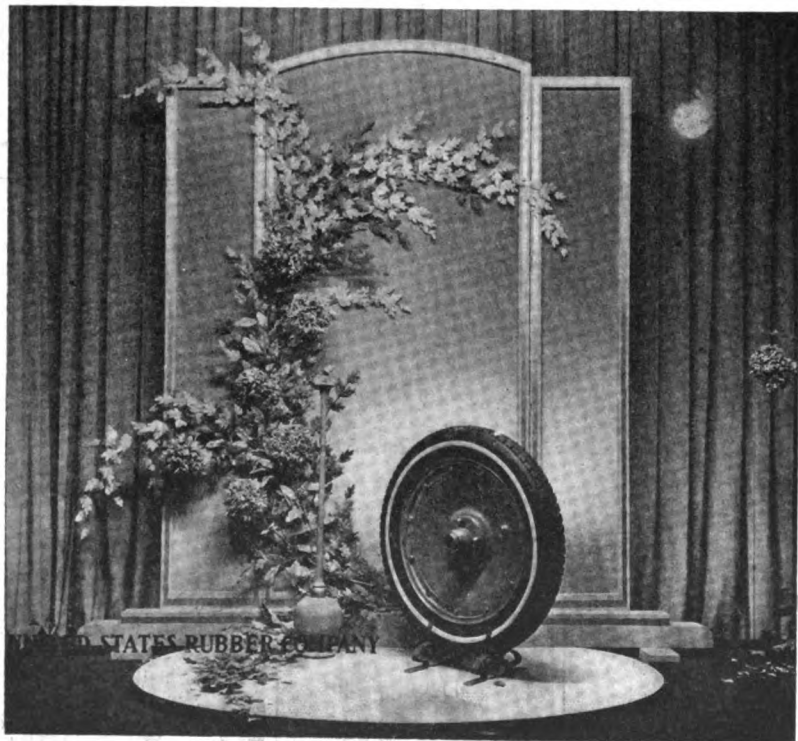
No right thought you think, and no right work you do, is too small to be important.

Small things simply make great things possible.—Cadillac Cheer.

Some salesmen travel so fast trying to catch up with the fellow ahead that they never see the crowd behind.—Between Us.

"Loaded conversation" is all too common among salesmen. We see it everywhere. Over-eagerness to make a sale, so-called brilliant inspirations of the moment, which have had no basis of sound thought or reasoning, the desire to appear super-wise—all these things lead salesmen to making statements that are pregnant with boomerangs for their own success.—Sales Generator.

U. S. Rubber Company Displays



This beautiful display attracted hundreds of New Yorkers

How GMC Co-operates with its Dealers

2—GMC District Selling Plan

In order to knit the entire GMC selling organization into one united whole with common ideas and plans, and in order to maintain a close touch between factory distributors and dealers, General Motors Truck Company has placed District Sales Managers throughout the country. They are directly responsible to the General Sales Manager at the factory.

The District Sales Manager is the man to whom GMC dealers may go at any time for advice, information or assistance of any kind. He works with them in straightening out difficult situations. He is familiar with dealer problems. He knows market conditions and his assistance is very frequently of inestimable value to dealers.

The services of these District Sales Managers are another of the helpful influences provided by the General Motors Truck Co., to assist its dealers to make more money with a GMC franchise.

GENERAL MOTORS TRUCK COMPANY—Pontiac, Michigan
Division of General Motors Corporation

This is No. 2 of a Series of Advertisements outlining the definite advantages of a GMC franchise. No. 1 appeared in issue of Nov. 3.



CALENDAR

NOVEMBER

Cincinnati Automotive Trades Assn., Nov. 17-24.—Third Annual Automotive Accessory and Radio Exposition, Music Hall, Cincinnati, O.; John J. Behle, manager.

Society of Automotive Engineers, Inc., Nov. 19.—Cleveland Section Meeting, Cleveland Hotel, Cleveland, Ohio; David Beecroft, chairman.

Hudson County Automobile Trade Assn., Nov. 19-24.—Fourth Annual Passenger Car Show, Fourth Regiment Armory, Jersey City, N. J.; Fred Payne, manager.

National Automobile Chamber of Commerce, Nov. 20-21.—Service Managers' Meeting, Dayton, O.

Automobile Race, Nov. 29.—Los Angeles, Calif.

DECEMBER

Commercial Motor Transport and Roads Development Exhibition, Nov. 22-Dec. 1.—Olympia, London, England.

Ohio Automotive and Trade Assn., Dec. 5-6.—Seventh Annual Convention, Hotel Desher, Columbus, O.; E. J. Shover, secretary and manager.

Bergen County Automobile Trade Assn., Dec. 5-12.—Second Annual Passenger Car Show, Armory, Hackensack, N. J.; A. M. Probst, president.

American Petroleum Institute, Dec. 11-13.—Fourth Annual Meeting, Statler Hotel, St. Louis, Mo.

Ohio Accessory Jobbers' Assn., Dec. 13-15.—Annual Meeting, Columbus, Ohio.

JANUARY

Lehigh Auto Trade Association, January, 1924.—Sixth Annual Passenger Car Show, Manhattan Auditorium, Allentown, Pa.; E. T. Satchell, president.

Buffalo Automobile Dealers' Assn., January, 1924.—Twenty-third Annual Passenger Car and Truck Show, Seventy-fourth Regiment Armory, Buffalo, N. Y.; Carlton C. Proctor, manager.

Olds Motor Works, Jan. 9.—Annual Oldsmobile Dealer Dinner, Hotel Commodore, New York, N. Y.

Automobile Body Builders' Assn., Jan. 9.—Semi-annual Convention, Waldorf-Astoria Hotel, New York, N. Y.

New Jersey Automobile Exhibition Company, Jan. 12-19.—Annual Automobile Show, Chamber of Commerce Bldg., Newark, N. J.; Claude E. Holgate, manager.

Alameda County Automobile Trade Assn., Jan. 12-19.—Fifth Annual Passenger Car Show, Municipal Auditorium, Oakland, Calif.; Robert W. Martland, manager.

Brooklyn Motor Vehicle Dealers' Assn., Jan. 19-26.—Annual Automobile and Accessory Display, Twenty-third Regiment Armory, Brooklyn, N. Y.

Detroit Automobile Dealers' Assn., Jan. 19-26.—Twenty-third Annual Passenger Car, Truck and Accessories Show, Convention Hall, Detroit, Mich.; H. H. Shuart, manager.

Baltimore Automobile Trades Assn., Inc., Jan. 19-26.—Eighteenth Annual Automobile Show, Fifth Regiment Armory, Baltimore, Md.; John E. Raine, secretary.

Alabama Automotive Trades Assn., Jan. 21.—Annual Meeting, Montgomery, Ala.

Society of Automotive Engineers, Jan. 22-25.—Annual Meeting, Detroit, Mich.

Annual Automobile Salon, Jan. 26-Feb. 2.—Hotel Drake, Chicago, Ill.

FEBRUARY

Omaha Auto Trade Assn., February, 1924.—Nineteenth Annual Passenger Cars and Trucks Show, City Auditorium, Omaha, Neb.; A. B. Waugh, manager.

Hartford Automobile Dealers' Association,

February, 1924.—Seventh Annual Passenger Car Show, State Armory, Hartford, Conn.

Trenton Automobile Trade Assn., February.—Ninth Annual Passenger Car, Truck and Accessories Show, Second Regiment Armory, Trenton, N. J.

Charlotte Automotive Trade Assn., February.—Third Annual Passenger Car Show, Carolinas Exposition Building, Charlotte, N. C.

Dayton Auto Trades Assn., February.—Annual Passenger Car Show, Exhibition Hall, Fairgrounds, Dayton, Ohio.

Waterbury Automobile Dealers' Association, February.—Passenger Car Show, New State Armory, Waterbury, Conn.

Automobile Dealers' Assn. of Portland, Inc., Feb. 1-6.—Fourteenth Annual Passenger Car Show, Portland, Ore.; Ralph J. Staehli, manager.

Flint Automobile Dealers' Assn., Feb. 3-12.—Fourth Annual Passenger Car Show, Flint, Mich.

Cincinnati Automobile Dealers' Assn., Feb. 9-16.—Fourteenth Annual Passenger Car Show, Music Hall, Cincinnati, O.; Harry T. Gardner, manager.

Kansas City Motor Car Dealers' Assn., Feb. 9-16.—Eighteenth Annual Car and Truck Show, Overland Bldg., Kansas City, Mo.; George A. Boud, secretary and treasurer.

THE ANNUAL SHOWS

Twenty-fourth Annual New York Automobile Show, Jan. 5-12.—Two Hundred and Fifty-eighth Field Artillery Armory, New York City.

Chicago Automobile Show, Jan. 26-Feb. 2.—Coliseum, Chicago, Ill.

Motor Car Dealers' Assn. of San Francisco, Feb. 10-17.—Seventh Annual Passenger Car, Truck and Tractor Show, Exposition Auditorium, San Francisco, Calif.; G. A. Wahlgreen, manager.

Albany Automobile Dealers' Assn., Inc., Feb. 16-23.—Fourteenth Annual Passenger Car, Trucks and Accessories Show, State Armory, Albany, N. Y.; J. B. Wood, manager; L. Y. Long, assistant manager.

Atlanta Automobile Assn., Feb. 16-24.—Southern Automobile Show, City Auditorium, Atlanta, Ga.; Virgil W. Shepard, manager.

Louisville Automotive Dealers' Association, Feb. 18-23.—Sixteenth Annual Passenger Car Show, Jefferson County Armory, Louisville, Ky.; George Holmes, manager.

Des Moines Automobile Trade Assn., Feb. 25-March 1.—Annual Automobile Show, Des Moines, Iowa; C. G. Van Vleet, manager.

Syracuse Automobile Dealers' Assn., Feb. 25-March 1.—Seventeenth Annual Automobile Show, State Armory, Syracuse, N. Y.

Passenger Car Dealers' Assn., Feb. 25-March 1.—Fifteenth Annual Passenger Car Show, Klingman Furniture Exhibition Building, Grand Rapids, Mich.; M. D. Elgin, manager.

MARCH

Portland Automobile Dealers' Association, March 24.—Eleventh Annual Passenger Car, Truck, Tractor and Accessories Show, Exposition Bldg., Portland, Me.; Howard B. Chandler, manager.

Butte Auto Dealers' Association, March.—Second Annual Passenger Car Show, Columbia Gardens, Butte, Mont.

Automobile Dealers' Association of Cumberland, March.—Seventh Annual Passenger Car Show, Cumberland, Md.

Springfield Automobile Dealers' Association, March.—Fifth Annual Automobile Show, State Arsenal, Springfield, Ill.; Basil W. Ogg, manager.

Charlotte Automotive Trades Assn., March.—Fourth Annual Automobile Show, Charlotte, N. C.; T. M. Glasgow, president.

Williamsport Automobile Dealers' Assn.,

March.—Fifth Annual Passenger Car Show, State Armory, Williamsport, Pa.; Carl W. S. Rothfuss, president.

Evansville Automobile Show Association, March.—Second Annual Passenger Car Show, Coliseum, Evansville, Ind.; J. W. Walton, manager.

Youngstown Automobile Dealers' Assn., March.—Third Annual Passenger Car Show, Youngstown, O.; C. A. Baird, manager.

Indianapolis Auto Trade Association, March 3-8.—Fifteenth Annual Passenger Car, Truck and Accessories Show, Auto Show Bldg., Indianapolis, Ind.; John Orman, manager.

Saginaw Automobile Dealers' Assn., March 6-9.—Seventh Annual Passenger Car Show, Auditorium, Saginaw, Mich.; J. J. Tompkins, manager.

Geneva Auto Trades Association, March 10-14.—Third Annual Passenger Car Show, State Armory, Geneva, N. Y.; H. W. Bennett, manager.

Boston Automobile Dealers' Association, Inc., & Boston Commercial Motor Vehicles Association, Inc., March 8-15.—Twenty-second Annual Passenger Car, Truck and Accessories Show, Mechanics Bldg., Boston, Mass.; Chester I. Campbell, manager.

Greenville Automobile Dealers' Association, March 28-31.—Fifth Annual Passenger Car Show, Textile Hall, Greenville, S. C.; Eugene B. Smith, manager.

APRIL

Upper Peninsula Automobile Show, April.—Tenth Annual Passenger Car and Truck Show, Coliseum, Calumet, Mich.; Joseph A. Savini, manager.

Baker Automobile Dealers' Assn., April, 1924.—Third Annual Passenger Car Show, City Auditorium, Baker, Ore.; E. F. Collins, manager.

Rotary Club and Chamber of Commerce, April, 1924.—Automobile Show, Goldsboro, N. C.

MAY

National Automobile Chamber of Commerce, May, 1924.—International Motor Transport Congress, Detroit, Mich.

IN THE TRADE

(Continued from page 54, third column)
larging the building. J. F. Morris is the owner of the garage business.

TEXAS—BROWNWOOD.—W. F. Haynes has become half-owner and co-partner with G. A. Rinson in the business formerly known as the Rinson Tire Company.

COLORADO.—W. J. Harris has taken over the agency for Maxwell and Chalmers cars and trucks. He will occupy a new building being erected by J. E. Stowe.

CROSS PLAINS.—Cross Plains Motor Company will soon occupy its new quarters at North Main street.

DUBLIN.—Wray & Company have secured the Chevrolet agency for this territory.

EL PASO.—Boyd E. Ryan has sold his interest in the Lone Star Motor Company.—L. A. Bock has opened an automobile service shop at 512 North Piedras street. He will specialize in brake inspection and repairs, and motor car lubrication.

GILMER.—L. H. Yeager has sold the Highway Garage to Jerry Dunn.

HOUSTON.—L. L. Walker has entered the automobile repair business with W. C. Beddeker, Jr., under the firm name of Walker and Beddeker. They are located at 1609 Austin street.

NEW MEXICO—ALBUQUERQUE.—A new garage is being erected for the Quickel Auto and Supply Company on the corner of Sixth street.—A. P. Jackson will open an agency for Paige and Jewett automobiles.

DEMING.—Kerr & Rogers Motor Company has moved to its new office and store room on the south side of Spruce street between Silver and Platinum streets.

AJAX CORD

With New Features



THEY have established an enviable reputation for their high quality, moderate cost and excellent performance.

Long-established dealers who are serving their customers Ajax Tires are doing a bigger business than ever before.

You too may enjoy a greater measure of success by serving your customers with Ajax Quality Products.

AJAX RUBBER COMPANY, INC.
NEW YORK

FACTORIES: TRENTON, N. J.
BRANCHES IN PRINCIPAL CITIES

PUBLISHER'S OBSERVATIONS

BESPEAKING FAIR PLAY



VERY peculiar phase of the used-car situation has developed which seems to demand special consideration. In connection with the abandonment of a cooperative scheme which dealers in an eastern city conjured up among themselves it is now felt locally that all cooperative schemes having a like intent are doomed.

Competition in the larger cities is so keen, it is said, and there is so much opportunity for undetected skullduggery that no comprehensive plan will ever be completely successful. By contrast, it is said—and here comes the remarkable part of it—projects of the kind that involve mutual effort by all or a majority of the dealers will work in smaller communities, because there the dealers know each other better and are less hard pushed by the factories.

This would be interesting were it wholly true. Like all generalities, however, it has its exceptions. Only in this case, to employ an Hibernianism, the question is whether the exceptions do not constitute the rule!

¶ In a number of instances where dealers in smaller communities have been approached on the question of organizing to get rid of the used-car element in competition, the answer, unequivocally given, has been that such a thing could not possibly be accomplished for the very simple reason that the dealers knew each other altogether too well to trust one another. There would seem, then, to be cases in which dealers in cities find it difficult to organize protectively against the used car menace because competition is too keen, and other cases in which dealers in towns find it difficult to organize because they know each other too well. But whether implied lack of acquaintance, on the one hand, or implied lack of competition on the other, are influences favorable toward organization, cannot be told.

Those apostles of the idea that the used-car problem can only be "licked" by the exercise of a proper amount of resolution on the part of the individual dealer, irrespective of what any or all other dealers are doing, have at least one thought on their side. No plan, however beautiful, or how beautifully simple, can possibly succeed unless the dealers entering into it are willing to enter all the way, and once in, to stay there. There can be no mental reservations, no exceptions. If at any time in the history of the automobile business the old adage, "Honesty is the best policy" had force, this is the time, and very properly speaking, honesty, like charity, should begin to function at home.

¶ Sales of used cars have approached the point of representing forty to fifty per cent of the total number of cars sold by the retailer. This means that the used-car business is deserving of a much larger percentage of the average dealer's attention than it has

ever received. Actually it is deserving of more attention than the business of selling new cars until its problems are solved and reasonably safe and productive policies of conduct established. This is so for a very good reason that may not before have been emphasized in just this way. This is the reason:

Automobile selling, as relates to new cars, is based on a certain kind of business ethics, as determined by the factory sales policy, engrossed on the dealer's contract, and by him more or less faithfully observed. There are quite a number of things the average established dealer would never think of doing in connection with new car sales. But on the other hand, there is nothing some dealers will not do in order to move used cars. The simple reason is that the resale of the used car is outside the terms of the factory contract and therefore outside of the realm of recognized and established business.

¶ It is this condition which the establishment of cooperative plans of one kind and another seeks to remedy as a means toward the end of general rectitude and business solvency. It is this that must be accomplished first, before the success or failure in detail of any project can be fairly judged. Community used-car appraisal, exchange, merchandising and other plans to a distressing number have been tried and found wanting, but always for the same reason—the dealers would not play fair. In every case where used-car plans have failed to come up to expectations this has been the principal difficulty, and it will be the principal difficulty in any failures to be recorded in the future, unless all present signs are misleading.

By the same token any plan that succeeds, as many of them will, must owe its success to the power of conviction in the minds of the cooperatives that each man must abide by the rules as made and provided for the government of all. Thus the big task before the earnest missionaries who are now in the field seeking to help the dealers of the Country find a way out of the present tangle is the task of teaching plain honesty to men who ought to need no such teaching.

¶ Further, this is to be said. Bad business in over trading hurts the individual more than it hurts the community. Therefore the principle involved is that of self-preservation. To sacrifice sales through refusing foolish allowances often results in swinging new-car sales across the street. But what difference if it hastens the end of a competitor who is reluctant to cooperate, or who will not play fair? At no time have substantial dealer organizations been more seriously in demand throughout the Country than now, and by the same token, at no time have the opportunities for organization been greater or their advantages presented more vigorously. Nor have dealers of the better class been more ready for organization.

PEERLESS

A Peerless dealer is always sure of his ground.

He knows he is within his rights when he says that, regardless of price, there is nothing in America to excel the New Peerless Eight in performance, dependability, beauty and comfort.

He declares this with perfect confidence because he knows the car and its owners will back him up.

He therefore fears no comparisons—on any basis.

This gives him a strong advantage which can be turned to good profit by any capable merchandiser.

A superior car and a strong company back of it are necessary factors for a profitable and permanent business relationship.

Peerless dealers have both.

New Prices

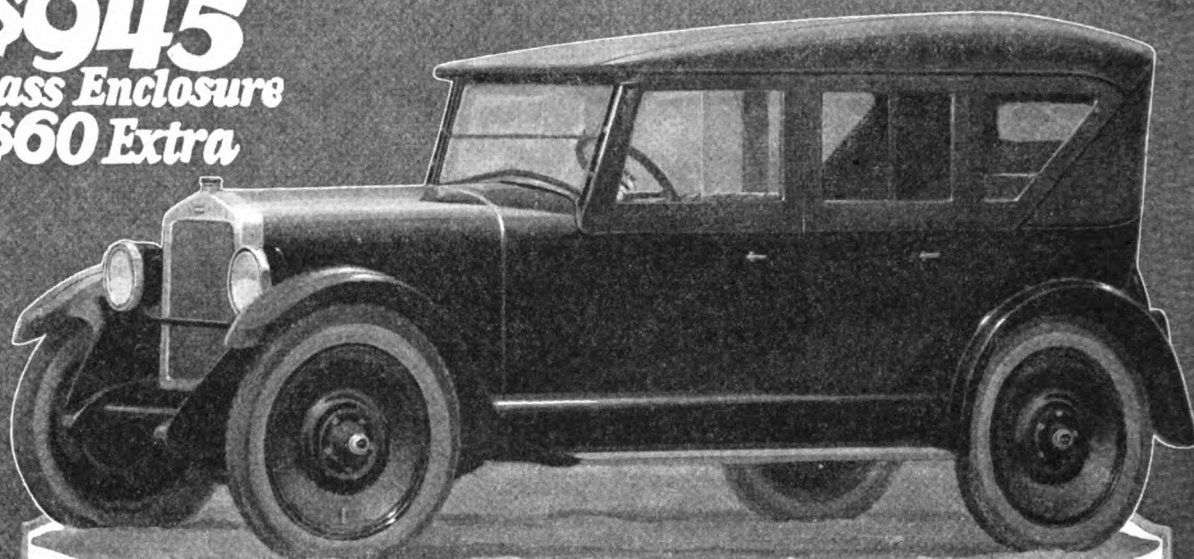
\$2690 to \$4090, f. o. b. Cleveland, dependent on the style of body you desire. The Peerless line of bodies includes touring cars, coupes, sedans and limousines

THE PEERLESS MOTOR CAR COMPANY
CLEVELAND, OHIO



NO AMERICAN MOTOR CAR, REGARDLESS OF PRICE, EXCELS THE NEW
PEERLESS EIGHT IN PERFORMANCE, DEPENDABILITY, BEAUTY AND COMFORT

Touring Car
\$945
Glass Enclosure
\$60 Extra



Does the Car You Sell Have All That is Latest and Best?

The True Blue Oakland has met with an enthusiastic reception largely because it is a thoroughly modern light six. It was designed, in every part, to utilize the latest and best in automobile engineering.

The car buyer realizes this. He sees it in the distinctive new bodies—the new six-cylinder engine—the trusty four-wheel brakes—the cen-

tralized controls on the steering wheel—the automatic spark control—the permanent top—the Glass Enclosures for open models—the disc wheels. And he feels it in the smooth, convincing performance of the car.

It is easy to sell such a car as this at its new low price. Many high grade dealers are joining us. Let us tell you the whole story.

OAKLAND MOTOR CAR COMPANY, PONTIAC, MICH.
 Division of General Motors Corporation



Touring . . . \$ 945
 Roadster . . . 945
 Sport Touring . 1095
 Sport Roadster 1095

Business Coupe \$1195
 Coupe for Four 1345
 Sedan . . . 1395
 All Prices f. o. b. Pontiac

Your Good Name and Ours

There are more Republic trucks actually at work today than trucks made by any other exclusive truck maker. And Republic is one of the few really nationally distributed, nationally known trucks.

That's reputation of the tangible kind which helps to open up the dealer's most difficult markets, and stimulates sales volume to new peaks. Republic's good name is a *concrete* thing, represented by trucks of all sizes in all regions weaving unassailable sales facts by their good work. Today's notably improved Republic trucks are even bettering Republic low ton-mile costs.

There is added satisfaction in dealing with Republic's clean-cut administration, closely organized for fresh achievement. The vigor and authority of the old Republic experience is backed by the security of strong financial power.

LAUNDRIES
USE THEM

JOBBER'S
USE THEM

The facts which make the Republic franchise so highly valued, should be part of every dealer's business information. Write to us.

REPUBLIC MOTOR TRUCK CO., INC., ALMA, MICHIGAN
More Trucks in Use than any other Exclusive Truck Builder

B L I C
t r u c k s

THE POLO PONY OF



*We Want Dealers who
Want this Kind of car*

HERE is a new, aristocratic car bearing a name that is honored among motor car owners.

For ten years we have been building up the good will which will be focused on this car

— our latest and most complete crystallization of what the public wants in a fine, fleet car of de luxe appointments.

This new product of ours embodies the latest style and engineering features so in demand among discriminating motorists:

- four wheel brakes of superior design
- semi-balloon tires that give added comfort
- mechanical, non-clashing gear-shift
- Marshall spring upholstery — the finest that can be obtained
- a 7½ inch frame, twice as strong and twice as expensive as is usually thought necessary
- a sweet-performing valve-in-head six — running in a constant bath of oil
- a thief-proof lock which makes it impossible to steer the car the moment you throw the ignition switch
- disc wheels — and many other de luxe refinements.

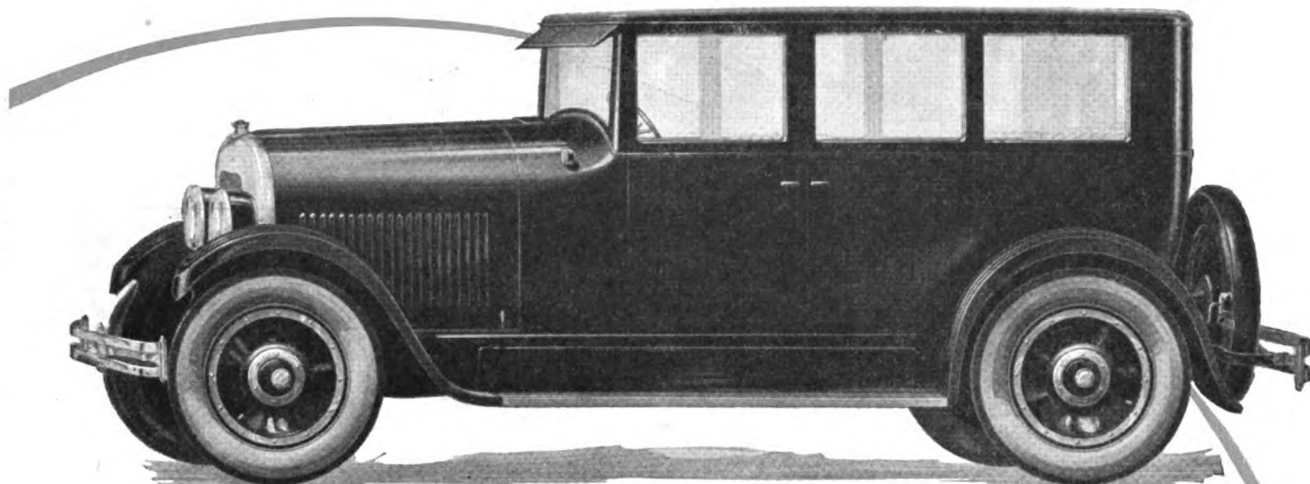
If that is the kind of a car you want — and we have no dealer connection in your locality, here is a splendid opportunity to cash-in on the new demand for superb quality in a light-handling car.

For full information, mail the coupon.

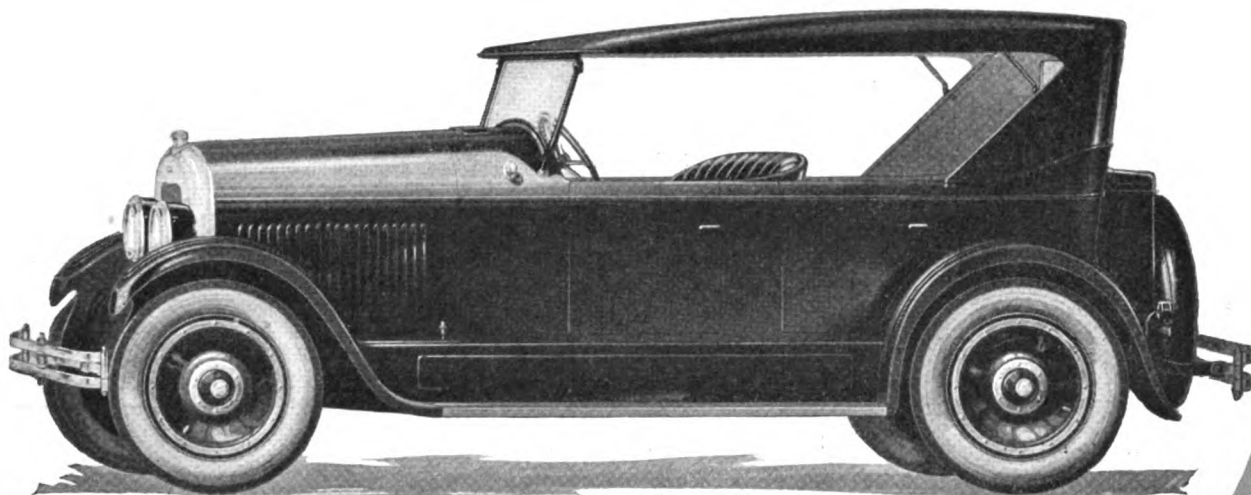


Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

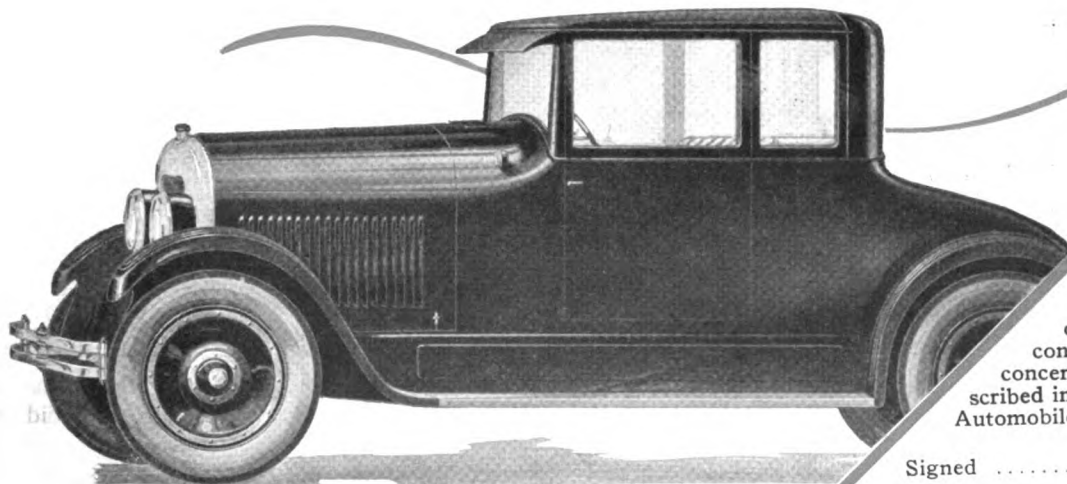
THE FINE CAR FIELD



\$2345 at Factory



\$1895 at Factory



\$2145 at Factory

Box 1000
Automobile
Topics, 1790
Broadway, New
York, N. Y.

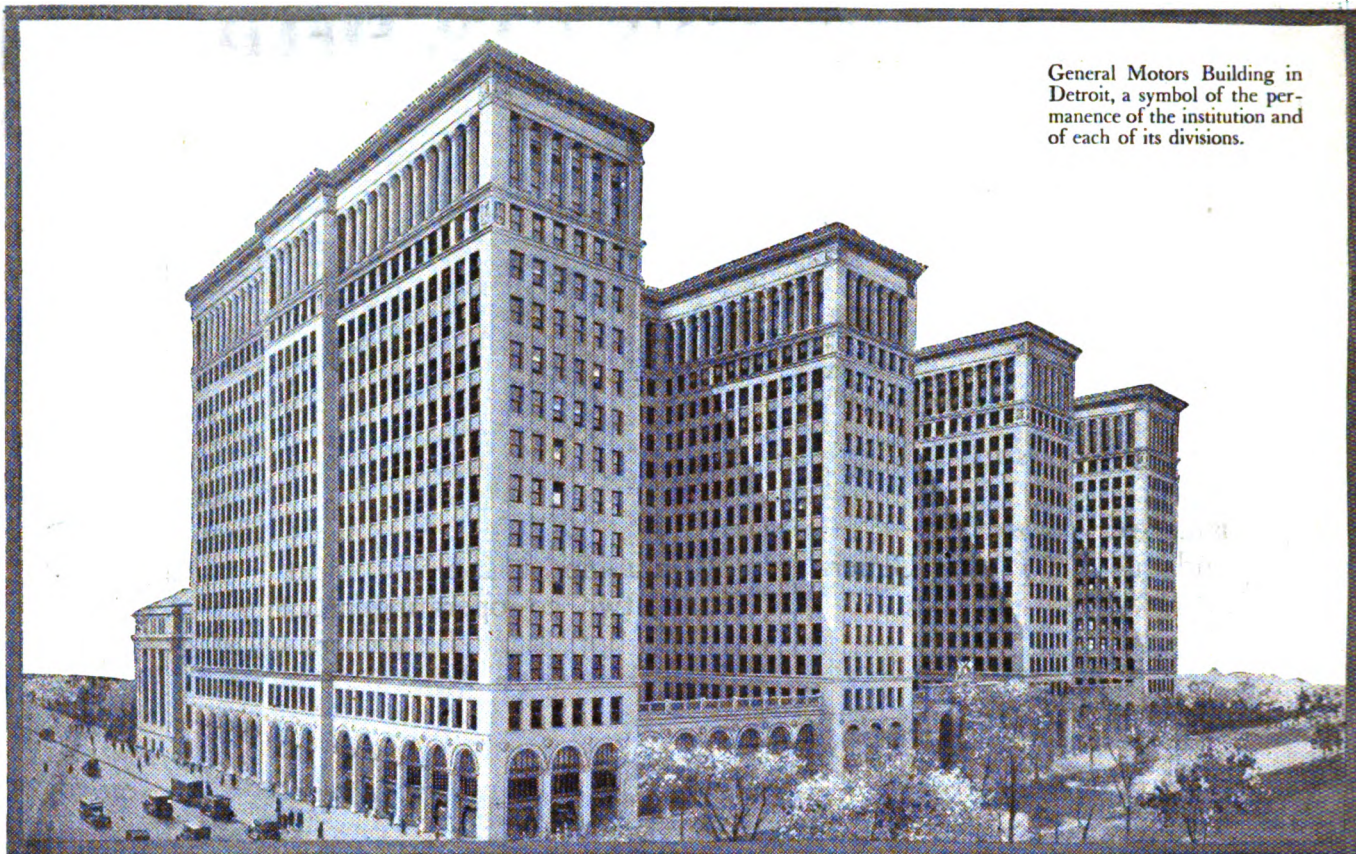
Without obligation on our part please send us, in confidence, complete details concerning the Motor Car described in the November 17 issue of Automobile Topics.

Signed

Address

City

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers



General Motors Building in Detroit, a symbol of the permanence of the institution and of each of its divisions.

“But what does General Motors mean to me?”

Buick, Cadillac, Chevrolet, Oakland, Oldsmobile and GMC Trucks—each of these brought to General Motors a record of achievement and a famous name.

“But what,” you ask, “does all this mean to me? In what respects am I benefited because General Motors unites in one family so many different members?”



GENERAL

The answer is four-fold:

1 By uniting the purchasing power of many companies, General Motors buys more economically, whether the materials purchased be tiny lock-washers or tons of steel. You benefit by these economies in the price you pay for General Motors products.

2 Many minds are better than one. No American automobile company is more than 29 years old, but the car and truck divisions of General Motors have an aggregate experience of more than 100 years, which is available for each separate division in the development of its cars.

3 You can pay for a General Motors car out of income, just as you pay for a home. The General Motors Acceptance Corporation makes this possible, through resources which place it among the nation's principal banking institutions.

4 In Detroit and in Dayton, General Motors maintains the largest automotive laboratories in the world—two co-operating organizations of scientists and engineers, working constantly for progress in the automotive industry.

* * * * *

Thus General Motors, the family, is more than the sum of its members, for it adds a contribution of its own to the contributions made by each individual company. And these united contributions, crystallized in added value, find their way to you.

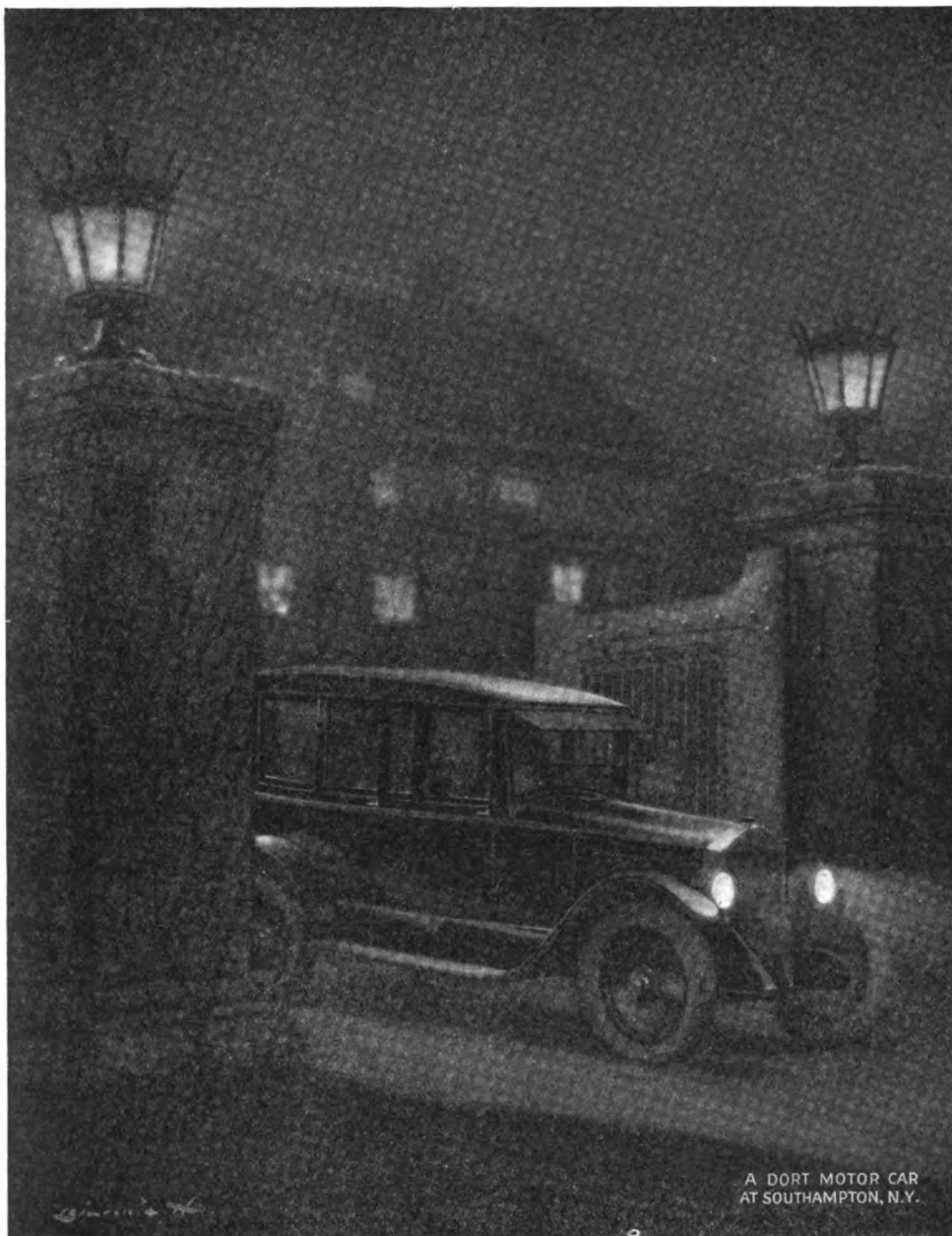
You recognize the trademarks on these two pages. They are the crests of manufacturing members of the General Motors family—symbols made valuable by years of public confidence.

"Product of General Motors" is your assurance that back of each company are the resources and strength of the whole family of which it is a part.

PRODUCT OF GENERAL MOTORS



MOTORS



A DORT MOTOR CAR
AT SOUTHAMPTON, N.Y.

The Dort



THE TRADE MARK

The Dort Motor Car is also Bosch Equipt

In adhering to the policy of producing a car in which "Quality Goes Clear Through," Dort has made his cars Electrically-Bosch throughout.

The Bosch Starting, Lighting and Ignition Systems, besides definitely adding quality to the car so fitted, assure those attributes which have made Dort cars so acceptable. Easy to start, "smooth-as-silk" on high, and powerful and dependable as the connoisseur could desire.

All these are Dort qualities—they are also the inevitable result of using Bosch Equipment. You may be sure of universal owner satisfaction if the cars and trucks you sell are equipped with Bosch Ignition, Starting and Lighting.

AMERICAN BOSCH MAGNETO CORPORATION

MAIN OFFICE and WORKS: Springfield, Mass.

Branches: New York—Chicago—Detroit—San Francisco

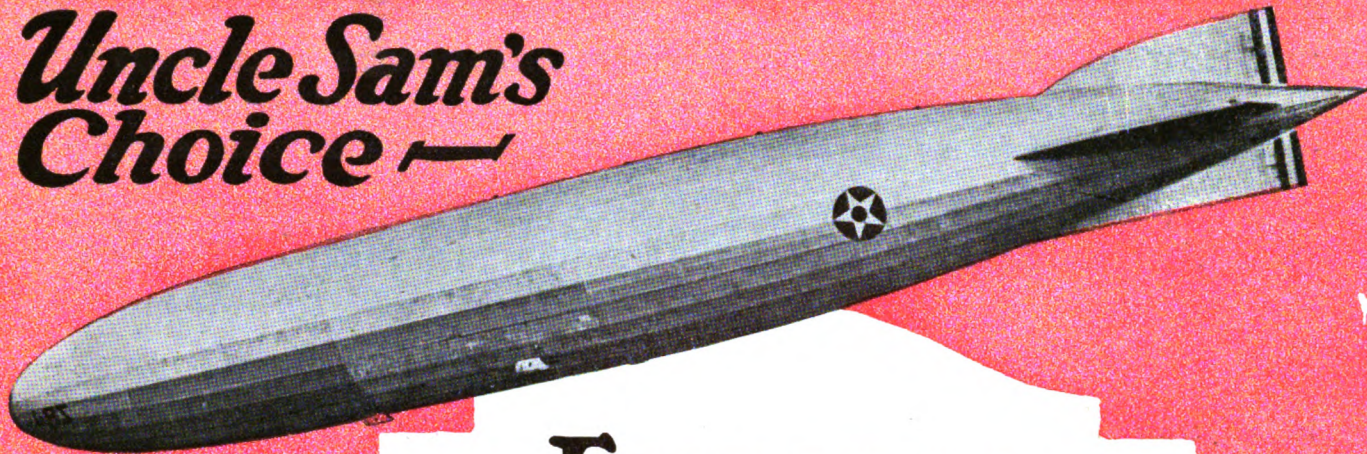
Over 700 Service Stations—Expert Service Everywhere

BOSCH

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

Digitized by Google

Uncle Sam's Choice



Economy and Dependability

WHEN the U. S. Navy built the ZR-1, a 680-foot, 75,000 pound dirigible at Lakehurst, N. J., the engines were equipped with Stromberg Carburetors.

The experts who specified Stromberg in preference to any other Carburetor did so because of its past performance—its unfailing ability to develop greater power, more speed, better acceleration—and all is done economically because Stromberg equipped engines whether on dirigibles, automobiles, motor boats or tractors, never fail to convert every drop of fuel into driving force.

Put a Stromberg on your car—the saving in gas soon pays for the Carburetor. When you buy a new car be sure it has a Stromberg.

See your dealer or write direct mentioning name, year and model of your car.

THE STROMBERG MOTOR DEVICES CO.
64 East 25th Street Dept. 1119 Chicago, Illinois

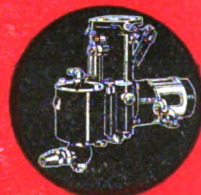
A SPECIAL STROMBERG CARBURETOR FOR EVERY CAR

*More than 135 passenger car and truck
manufacturers use the Stromberg
as Standard Equipment*



New STROMBERG Does it!

CARBURETOR



THE MOST NEEDED AND USEFUL BOOK ON AUTOMOBILES EVER WRITTEN

Accurate!

Authoritative!

Distinctive!

Automobile Repairing Made Easy

By **VICTOR W. PAGE, M. E.**

Member Society of Automobile Engineers

Author of "The Modern Gasoline Automobile," Etc.

1000 Specially Made Engravings on 500 plates 1056 Pages (5½x8) 11 Folding Plates

PRICE, \$4.00 NET

**A COMPREHENSIVE, PRACTICAL EXPOSITION OF EVERY PHASE OF MODERN
AUTOMOBILE REPAIRING PRACTICE**

THE ONLY BOOK OF ITS KIND

IT FILLS A REAL DEMAND

OUTLINES every process incidental to motor car restoration. Gives plans for workshop construction, suggestions for equipment, power needed, machinery and tools necessary to carry on business successfully. Tells how to overhaul and repair all parts of all automobiles. The information given is founded on practical experience, everything is explained so simply that motorists and students can acquire a full working knowledge of automobile repairing. Other works dealing with repairing cover only certain parts of the car—this work starts with the engine, then considers carburetion, ignition, cooling and lubrication systems. The clutch, change speed gearing and transmission system are considered in detail. Contains instruction for repairing all types of axles, steering gears and other chassis parts. Many tables, short cuts in figuring and rules of practice are given for the mechanic. Explains fully valve and magneto timing, "tuning" engines, systematic location of trouble, repair of ball and roller bearing, shop kinks, first aid to injured and a multitude of subjects of interest to all in the garage and repair business. All illustrations are especially made for this book, and are actual photographs of reproductions of engineering drawings.

This book also contains special instructions on electric starting, lighting and ignition systems. Tire repairing and rebuilding. Autogenous welding, brazing and soldering. Heat treatment of steel. Latest timing practice. Eight and twelve cylinder motors, etc., etc. A guide to greater mechanical efficiency for all repairmen. You will never "Get Stuck" on a job if you own this book. Complete index makes for easy reference.

CONDENSED SYNOPSIS OF CONTENTS:

CHAPTER 1. The Automobile Repair Shop. Buildings for Repair Work. Machinery and Power. Arrangement of Departments. Bench and Floor Equipment. **CHAPTER 2.** Small Tool Equipment for Repair Shops. Tools for Adjusting and Erecting. Precision Measuring Tools and Their Use. Special Tools. Complete List of Tools and Supplies Needed. **CHAPTER 3.** Overhauling the Gasoline Engine. How to Dismantle Motor. Defects in all Motor Parts. Repairing Scored and Cracked Cylinders. Valve Repairs. Fitting Bearings. Valve Timing. Eight Cylinder V Motors. Sleeve Valve Motors. **CHAPTER 4.** Cooling, Carburetion and Lubrication System Faults. Overheating. Radiator Repairs. Water Pump Repairs. Fuel Feed Methods. Adjusting Carburetors. Oiling Systems. Where to Look for Lubrication Trouble. **CHAPTER 5.** Location and Remedy of Ignition Faults. Battery Ignition System. Magneto Systems. How to Find All Ignition Troubles. Magneto Care and Adjustment. Modern Ignition Timing.

CHAPTER 6. Motor Starting and Car Lighting Systems. Leading Systems Described in Detail. Wiring Diagrams. Tracing Faults. **CHAPTER 7.** Clutch and Gearbox Faults. Principal Clutch Troubles Outlined. Clutch Repair. Planetary Gearsets. Friction Drives. Sliding Gear Transmissions. **CHAPTER 8.** Faults in Chassis Components. Overhauling the Chassis. Spring Repairs. Steering Gears. **CHAPTER 9.** The Rear Axle and Driving Systems. Semi, Three-quarter and Full Floating Axles. Care of Drive and Differential Gears. Axle Bearings. **CHAPTER 10.** Wheel, Rims and Tires. Wire Wheels. All Types of Rims. Rebuilding and Repairing Tires. **CHAPTER 11.** Miscellaneous Repair Processes. Autogenous Welding. Heat Treatment of Steel. Brazing and Soldering. **CHAPTER 12.** Useful information. **CHAPTER 13.** Hints, Kinks. Receipts and Formulae. **CHAPTER 14.** Useful Tables for Mechanics. Mathematical, Mechanical, Including Horsepower and Speed Charts.

Every dealer, garage owner, repairman, demonstrator, blacksmith and wheelwright will find this work of reference invaluable. More useful than any other tool in the motorist's kit.

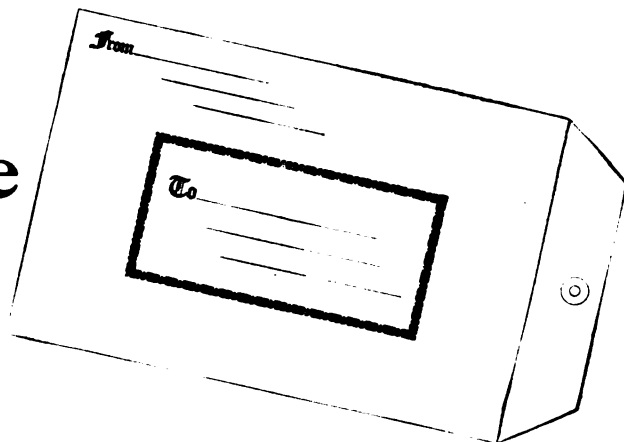
AUTOMOBILE TOPICS

Book Department

1790 Broadway, New York

Get This Christmas Envelope from Your Jobber

Here's What It Contains:



This 40-inch Christmas Streamer for Your Window

Use this streamer to attract Christmas buyers. Trim your windows and showcases with accessories that make desirable Christmas gifts.



A Supply of Christmas Bands and Cards

The decorated band across the plug cartons and the card in the cover make the Kit an attractive as well as a useful Christmas gift.



Practical Display Ideas for Your Windows and Showcases

These ideas will help you arrange attractive Christmas displays. In addition, the Envelope contains some selling suggestions on what you can do to draw the Christmas trade and get Christmas gift buyers to spend their money with you.

Any motorist will appreciate the gift of a Kit of AC Spark Plugs to carry in his car. Spare plugs make it convenient to change plugs when the motor misses or performs poorly, and the Kit protects them from damage.

You can increase your AC plug business greatly by selling the Kit as a Christmas gift. Check your stock of AC Plugs and Kits today, and order the additional stock you will need for the Christmas trade.



AC Spark Plug Company, FLINT, Michigan

Makers of AC Spark Plugs — AC Speedometers

U. S. Pat. No. 1,135,727, April 13, 1915, U. S. Pat. No. 1,216,139, Feb. 13, 1917
Other Patents Pending

The AC Speedometer—Feature it as a Christmas gift
for the Ford or Star driver

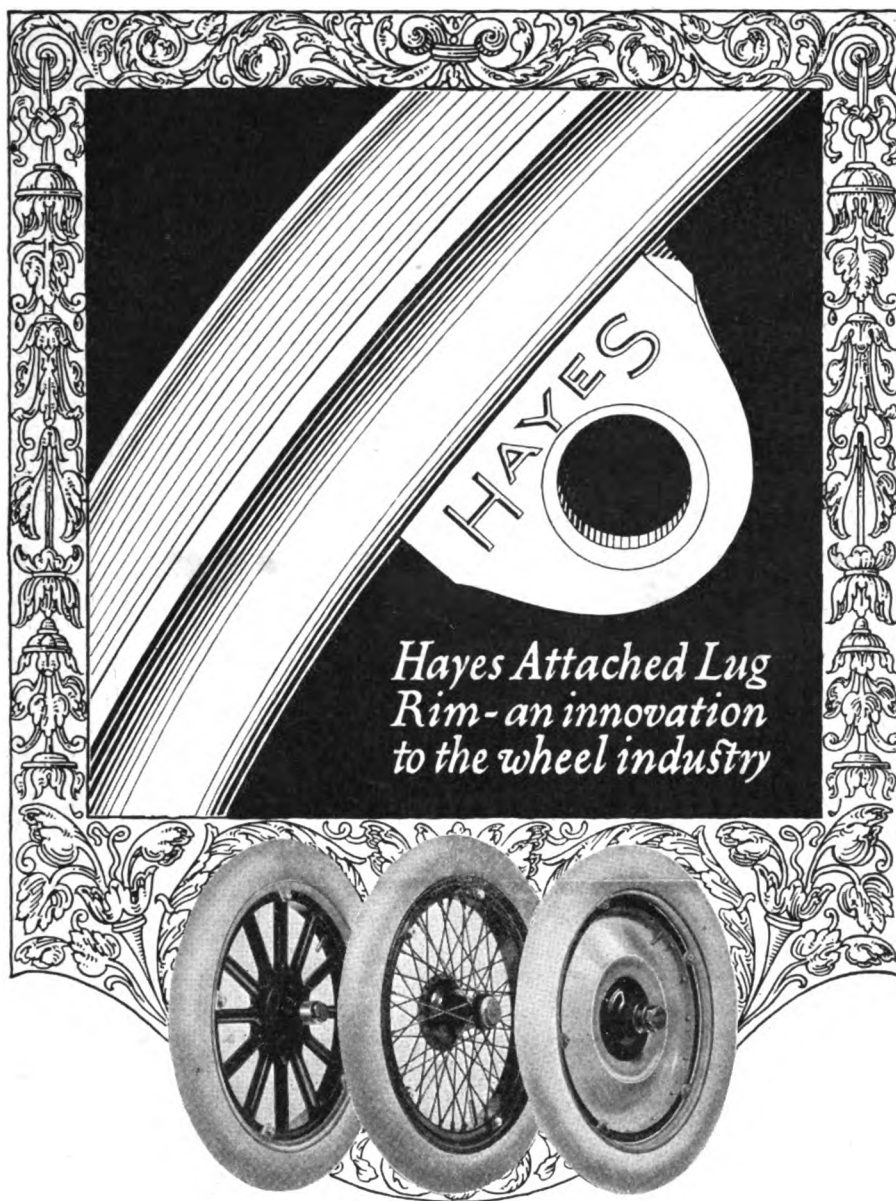
FISHER BODIES



BODY
by
FISHER

That Fisher products richly deserve their reputation of being the finest and most beautiful examples of coachwork is quickly proven by the examination of any motor car body which bears the emblem—Body by Fisher.

FISHER BODY CORPORATION, DETROIT
CLEVELAND WALKERVILLE, ONT. ST. LOUIS



THE Hayes Wheel Company occupies a position of dominance in the industry because of long specializing in one product; first proving it and then improving upon it. Some of the latest features possessed by Hayes Wheels exclusively are the Attached-Lug-Rim and the completely standardized line in wood, wire and disc.

HAYES WHEEL COMPANY, Manufacturers, JACKSON, MICHIGAN
Canadian Plant—Hayes Wheel Company Ltd., of Canada. Factories at Chatham and Merriton, Ont.

HAYES WHEELS

Standardized in Wood, Wire and Disc—All Demountable-at-the-Rim

95



TO CAR MANUFACTURERS:

Closed bodies will be even a greater factor in 1924 than in 1923—and the stability of your body builder will be correspondingly more important!

Tear out the above statement and put it before the man who most needs to ponder it!

CERTAINLY not less than ten car manufacturers in 1923 were disappointed, either in the quality of closed bodies delivered on their contracts, or in the rate of delivery.

Among these failures were no Raulang customers; for every Raulang contract is backed by \$4,000,000 in capital and surplus; proven ability in manufacture as well as in designing; and a record of faithful performance since the very beginning of the automotive industry.

Present expansion plans will provide for a limited amount of additional business. How can you more surely smooth away your closed-body difficulties than by permitting this organization to take that portion of your burden on its shoulders?

RAULANG BODY DIVISION
The Baker R & L Co.
CLEVELAND, OHIO, U.S.A.

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers



the air, for a period so long that I actually had time to think. And what I thought was, "There's going to be one awful bump."

After a parachute ride of about forty feet I landed, completely unhurt, but I didn't dare look back. Finally I called to Wilcox and got no answer. I was scared and called again. "Are you hurt?"

"I don't know, yet," replied Wilcox. He was still under the car and was trying to figure out where he had gone to and whether I was coming back.

As a matter of fact Wilcox was not much more hurt than I was but the car, which had struck a bridge over a little culvert, had turned turtle, completely, and was facing in the opposite direction to that in which it had started. Wilcox, who is still in the game, carries a picture of it to this day as a silent reminder.

This experience in itself did nothing to upset my trust in motor cars, purely as such. When a man deliberately places a gun at his temple and pulls the trigger, he can hardly blame the gun, but my next accident was of a different kind. We were proceeding along a placid country road about thirty-five miles an hour in a steady old family touring car with a steady old family chauffeur at the wheel. A safer car or a safer driver could not have been found in the world.

I was looking placidly at the landscape when a motion of the car's shoulders told me that something was wrong. The car plunged for the bushes. A second later, all its passengers were duplicating my previous experience as an aeronaut. A woven net caught us all like a net, the chauffeur who went through the windshield (not through it, good luck), and a slight blow in my left eye was the only injury to the party, but the car had been worse off than I had been over a

the car

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Needs No Adjustment

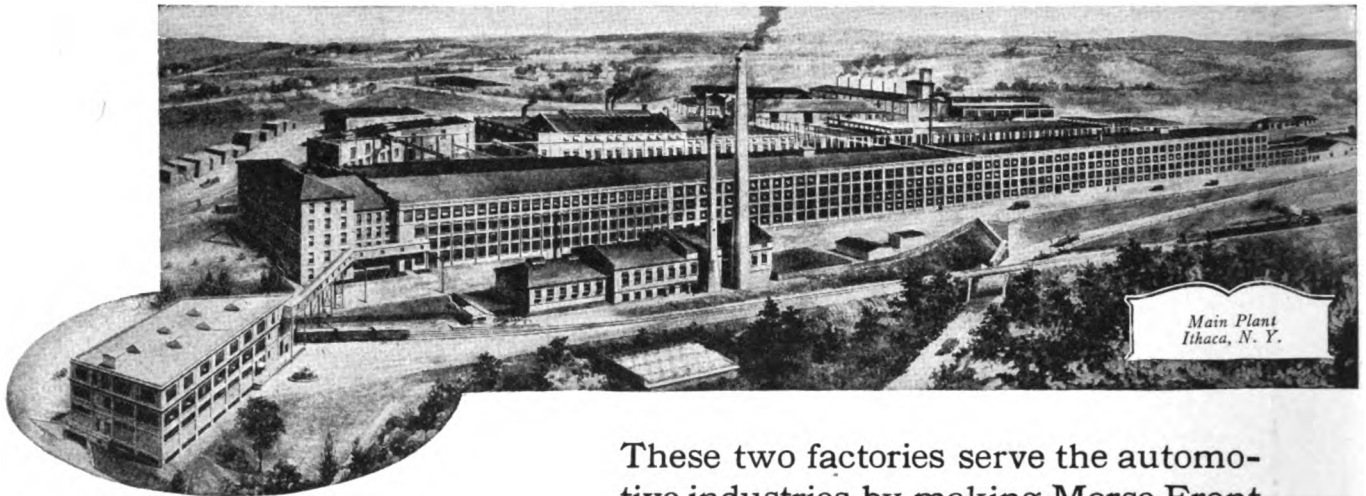
The design of the Long Clutch is such that its silent, smooth and easy operation will continue indefinitely without need of attention or adjustment.

Moreover, gears synchronize so quickly that you can shift from high to second at *any* speed.

LONG MANUFACTURING COMPANY
DETROIT, MICHIGAN

**LONG
CLUTCH**

LONG PRODUCTS — RADIATORS AND CLUTCHES



These two factories serve the automotive industries by making Morse Front End Drives for the following cars:

Anderson Six	Lafayette Eight
Auburn Six	Lincoln Eight
Barley Six	Moon Six
Cadillac Eight	National Six
Case Six	Northway Four
Chalmers Six	Oakland Six
Chandler Six	Packard Single Six
Cleveland Six	Packard Twin Six
Columbia Six	Rickenbacker Six
Crawford Six	Stearns Four
Davis Six	Stearns Six
Essex Four	Saxon Four
Flint Six	Sterling-Knight Six
Fox Six	Studebaker Light Six
Hupmobile Four	Star Four
Hudson Six	Templar Four
Jordan Six	Winton Six

Continental Motors

MORSE CHAIN COMPANY

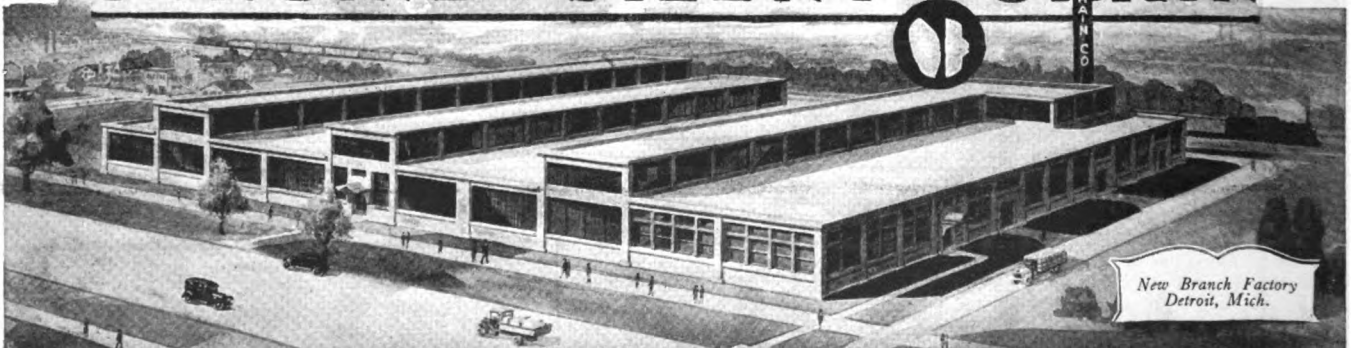
Main Office and Works
ITHACA, NEW YORK

Sales and Engineering Office
DETROIT, MICHIGAN

THE CONSTANT PRESSURE ANGLE CHAIN

MORSE

GENUINE SILENT CHAIN



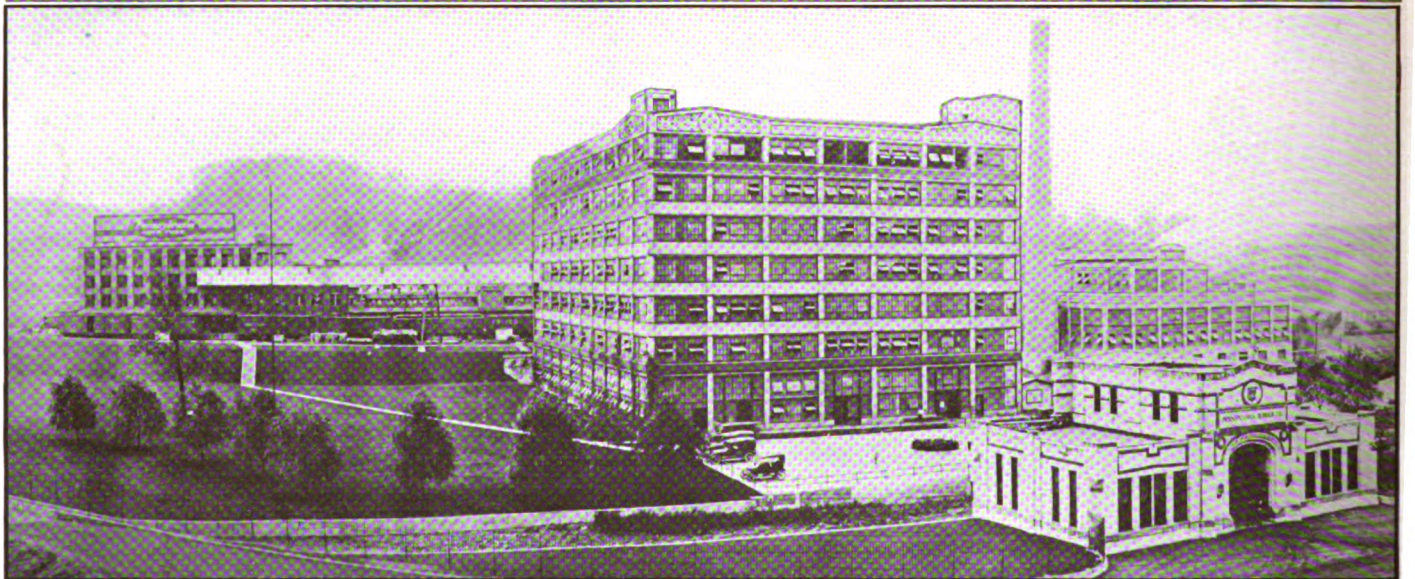
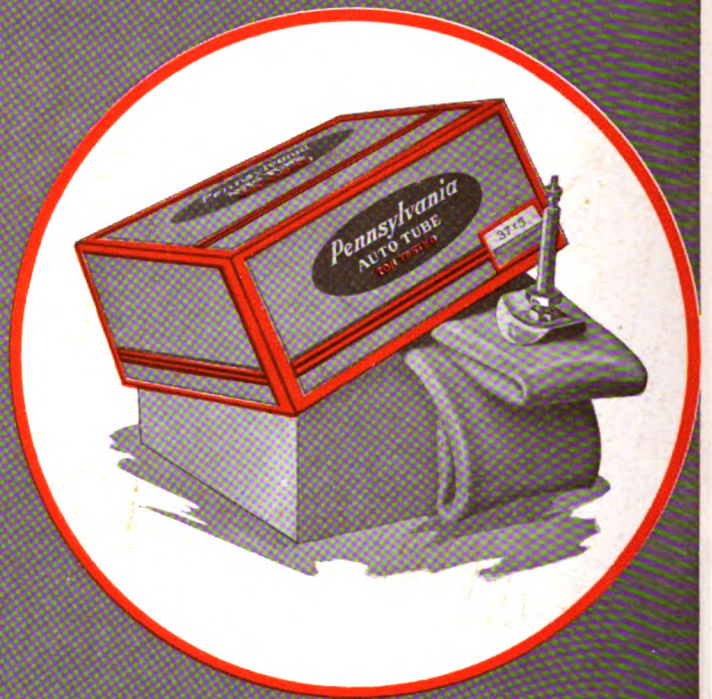
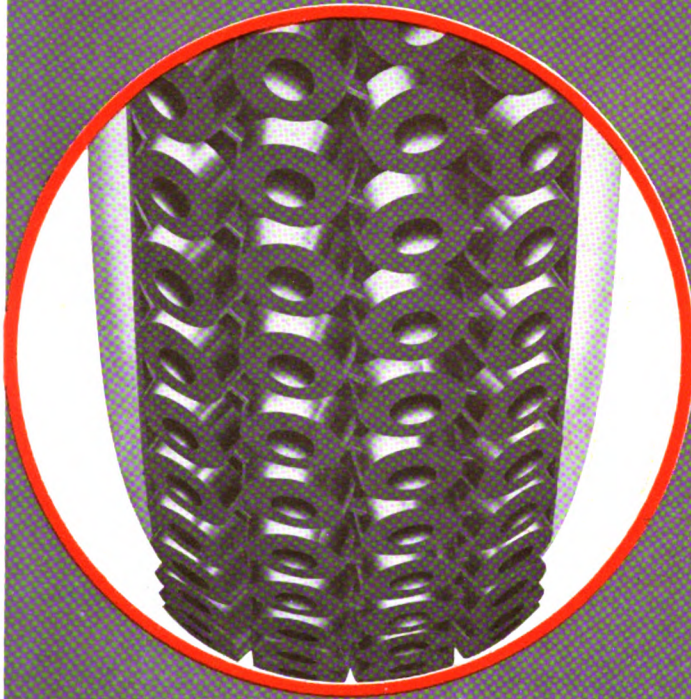
VACUUM CUP TIRES



**No Reduction
in Prices of
VACUUM CUP TIRES
or
TON TESTED TUBES**

PENNSYLVANIA RUBBER COMPANY OF AMERICA, INC. Jeannette, Pennsylvania

We are making them better in Jeannette!



PENNSYLVANIA RUBBER COMPANY OF AMERICA, INC. Jeannette, Pennsylvania



**NO PLY-
SKIMPING!**

**NO TREAD-
THINNING!**



**NO LABOR-
PINCHING!**

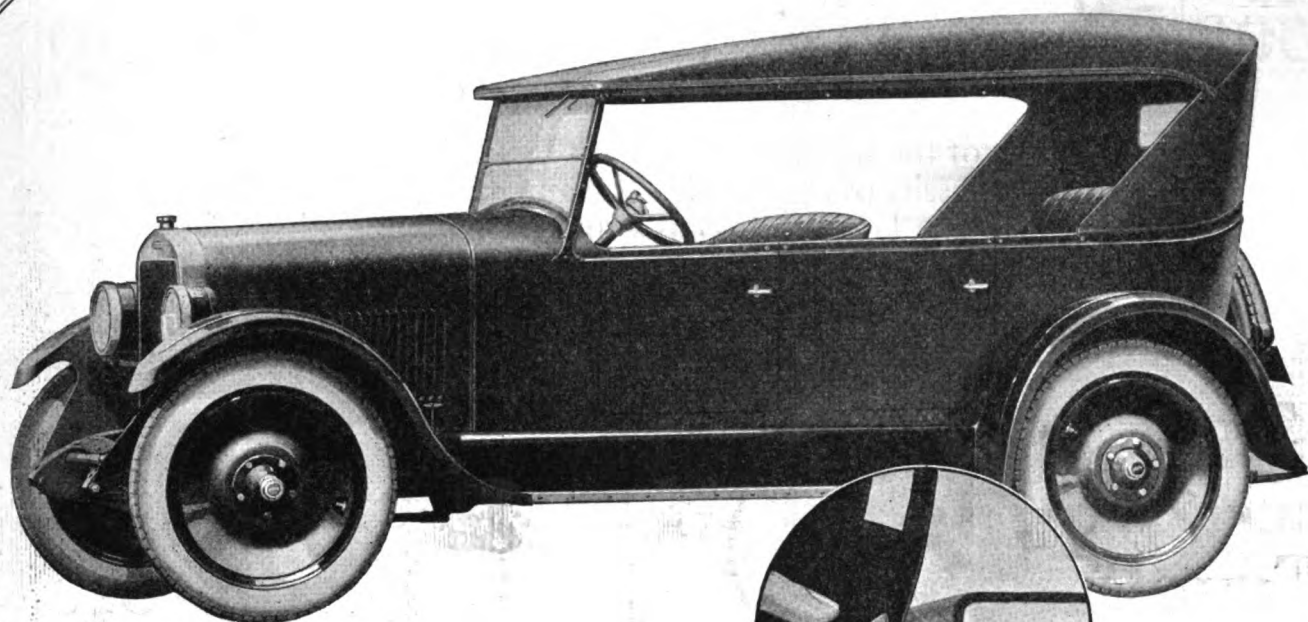
PENNSYLVANIA RUBBER COMPANY OF AMERICA, INC. Jeannette, Pennsylvania

Any Changes in Prices of VACUUM CUP TIRES or TON TESTED TUBES



Will tend toward higher levels in keeping with the acknowledged quality and reputation of our products

Dealers! Write or wire Factory Dept. G. for particulars in connection with a selling plan under which thousands of satisfied dealers are operating



Flush Type Fasteners on the "True Blue" Oakland

*Flush Type or
Cinch Fasteners
are factory equip-
ment on the follow-
ing motor cars:*

Chalmers
Cole
Maxwell
McFarlan
Oakland
Overland
Reo
Stutz
Willys-Knight

*Names of others
furnished on
request*

OAKLAND puts Flush Type Curtain Fasteners on its 1924 touring and sport models, because these latest improved fasteners contribute to the utility, snugness and refinement of the new type of door-opening side curtains on the "True Blue" Oakland.

Make use of their advantages—you Oakland salesmen—to help close sales! Point out how these fasteners are built flush into the outside surface of the car. No projections to catch and tear clothes, detract from beautiful body lines and get broken or bent. A real sales feature, especially with women.

Show how each curtain can be instantly released, without being pulled or lifted. Just press the button and a patented hidden spring automatically disengages the fastener from the socket.

Demonstrate the self-acting positive lock. Show how quickly and easily Flush Type works. These better fasteners add to Oakland's good selling points. In addition to Flush Type, we manufacture Cinch Curtain Fasteners, which also operate with a push button.

CINCH FASTENER CORPORATION
2343 WEST VAN BUREN STREET, CHICAGO

*This is one of a series of advertisements intended to help salesmen sell cars that are equipped with
Cinch and Flush Type Curtain Fasteners*

Books On Automotive Salesmanship

A group of the best known men in the industry, appreciating the necessity of putting the fundamentals of automotive salesmanship in book form, have supervised the writing of a complete course in

AUTOMOTIVE SALESMANSHIP

COVERING

Passenger Automobiles Trucks Tractors

The subject of Passenger Automobiles is covered in seven booklets; that of Motor Trucks in eight booklets, and Tractors in five booklets. The price per course is \$5.00.

SUBJECTS DISCUSSED:

Passenger Cars Simple mechanical definitions that salesmen should know; Building Methods of factories; The various inspections each part receives; Manufacturing procedure in motor car factories; The work of the engineering department; How the different assemblies are put together; The natural laws in automobile salesmanship; How to deal with competitors; How to secure a prospect; How to approach him after you have secured him; How to interest the prospect; The steps necessary in selling a car; Face to face with the prospect; The points you should emphasize; What constitutes beauty, comfort, convenience, durability, style, easy riding, etc.; The woman in the case; How to close a sale, etc., etc.

Motor Trucks The growth of the truck industry; Truck salesmanship and its responsibilities; The mechanical units of the motor truck; The cost of motor compared with animal transportation; The industrial value of the motor truck; Its adoption for long distance transportation; The potential market; How retail truck business is conducted; The dealer's relation to the manufacturer; Retail store salesmanship; The use of advertising literature in the store; How to handle the man who comes in to "look around"; How to show a truck to a prospect advantageously; How to draw out a prospect; The point of contact; The time for launching your sales talk; Encouraging the prospect to ask questions; Meeting the prospect on his own level; How to explain the mechanical details of the truck, and when; Meeting your prospect's arguments; Using your competitor's claims for sales weapons; Handling the question of price; Closing the sale; The matter of service; Selling the man who is to drive the truck; Keeping a prospect file; How to discover valuable sales leads; How to systematize your selling efforts.

Tractors The history of the motor tractor; How it is constructed; Mechanical terms every tractor salesman should know; The different tasks the tractor will perform on the farm; The number of tractors in use in the United States; A survey of the future market; The average life of a tractor; How to determine the relative values and capabilities of the various makes of tractors on the market; How to demonstrate a tractor; Five important features to emphasize during a demonstration; The various grades of farm soil and how they are classified; The science of Scientific Farming; Finding the tractor market; The value of sales vision; The banker and how he aids in tractor promotion work; How to approach the farmer; Handling the question of price; How to figure horsepower; What draw-bar pull means; Figuring the cost of farm labor; The number of acres of hay and grain the horse consumes yearly in the United States; The year-round utility of the tractor; When to close a sale; And how; Procrastination and how to defeat it; The use of sales letters; The worth of "word of mouth" advertising.

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AUTOMOBILE TOPICS

1790 Broadway, New York, N. Y.

Gentlemen:—I enclose \$..... for which please send me prepaid:

.....The combined course of twenty books covering passenger car, motor truck and tractor salesmanship, \$5.00.

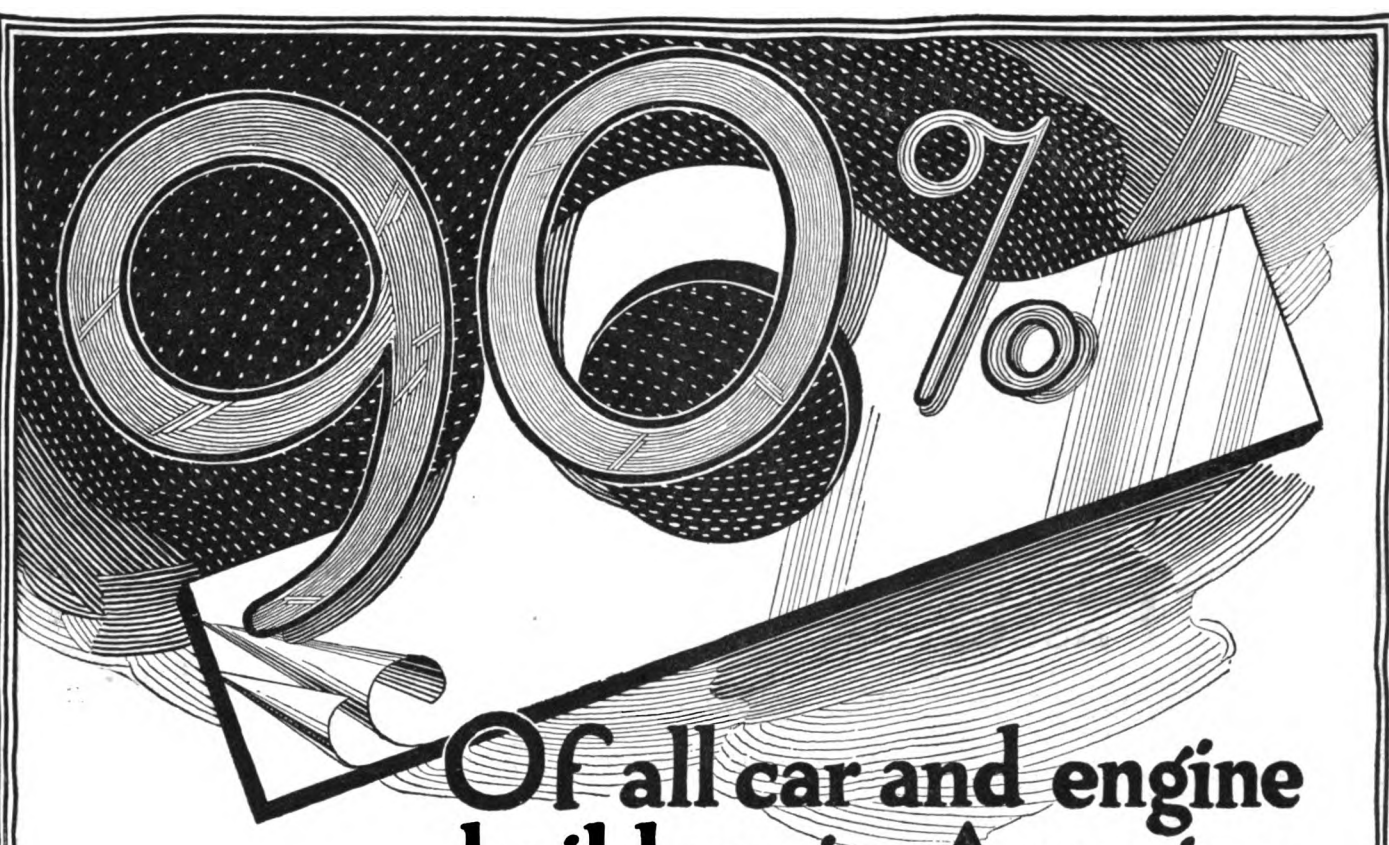
Name

Street

City

R. F. D. No.....State.....

**The First Complete Automotive
Course to be Prepared for the
Industry**



**Of all car and engine
builders in America
ninety per cent use**

LAMINUM

THIS in itself is undeniable evidence of the prominent position which Laminum occupies. Automotive engineers recognize in Laminum a most valuable labor- and time-saving device which possesses the unique faculty of reducing manufacturing costs while adding greatly to engine efficiency.

Our representatives will be glad to see you at the Blackstone Hotel during the A. E. A. Show

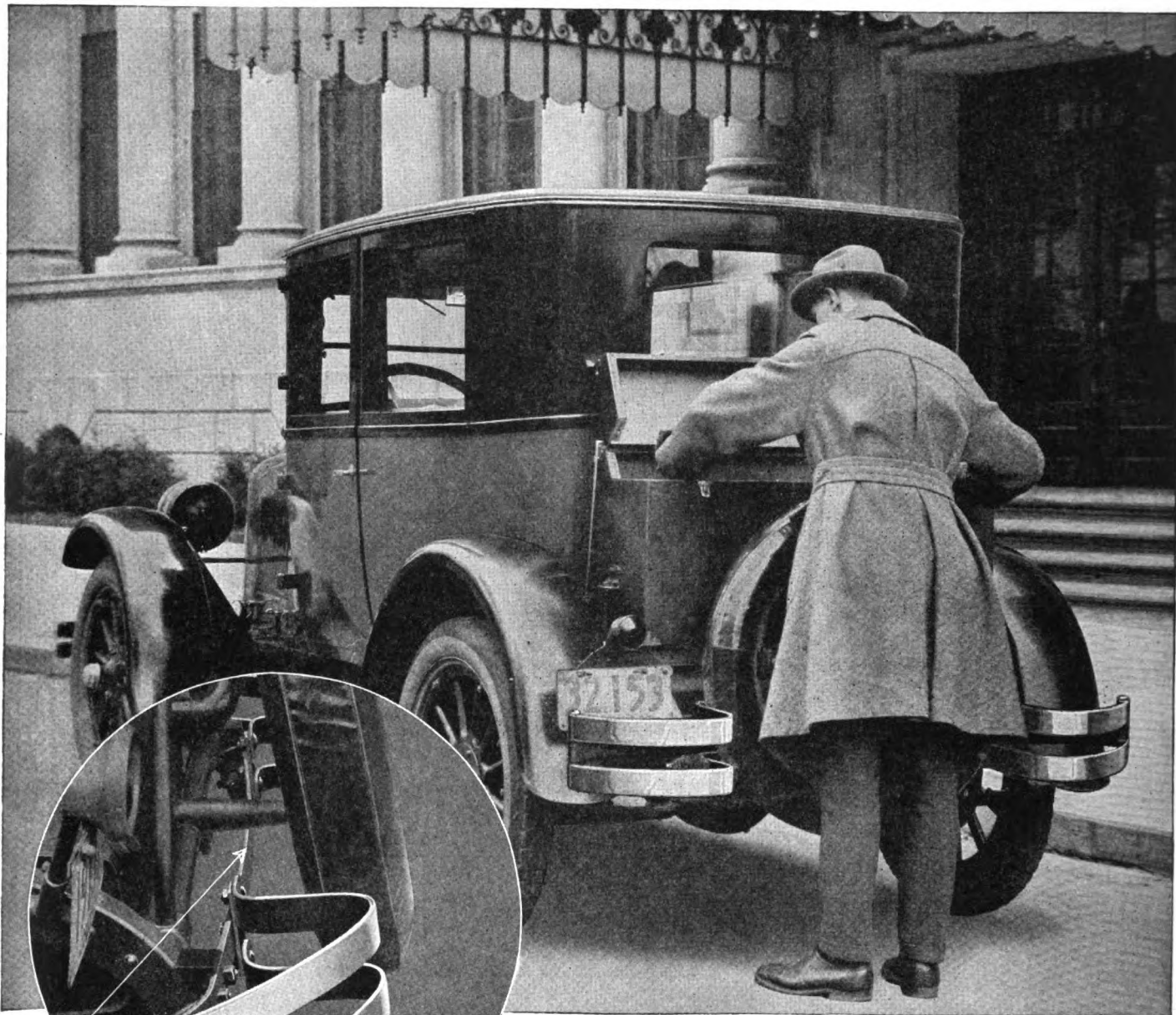
LAMINATED SHIM COMPANY, INC.
14th St. & Governor Pl. Long Island City, N. Y.

St. Louis:
Detroit:

Mazura Mfg. Co.
Dime Bank Building



***Probably the Greatest Endorsement
Ever Given a Motor Part***



Note
This
Bar

It firmly braces both
Bumperets, preventing
vibration and displacement

EATON "BUMPERETS"

*A New and Practical Form
of Rear Protection*

Their advantages are apparent in

1. Handling of spare tires
2. Getting at trunk or luggage deck
3. Filling gasoline tank and grease cups
4. Jacking up rear wheels
5. Parking in limited space
6. Distinctive appearance

Write for complete catalog and special folder.

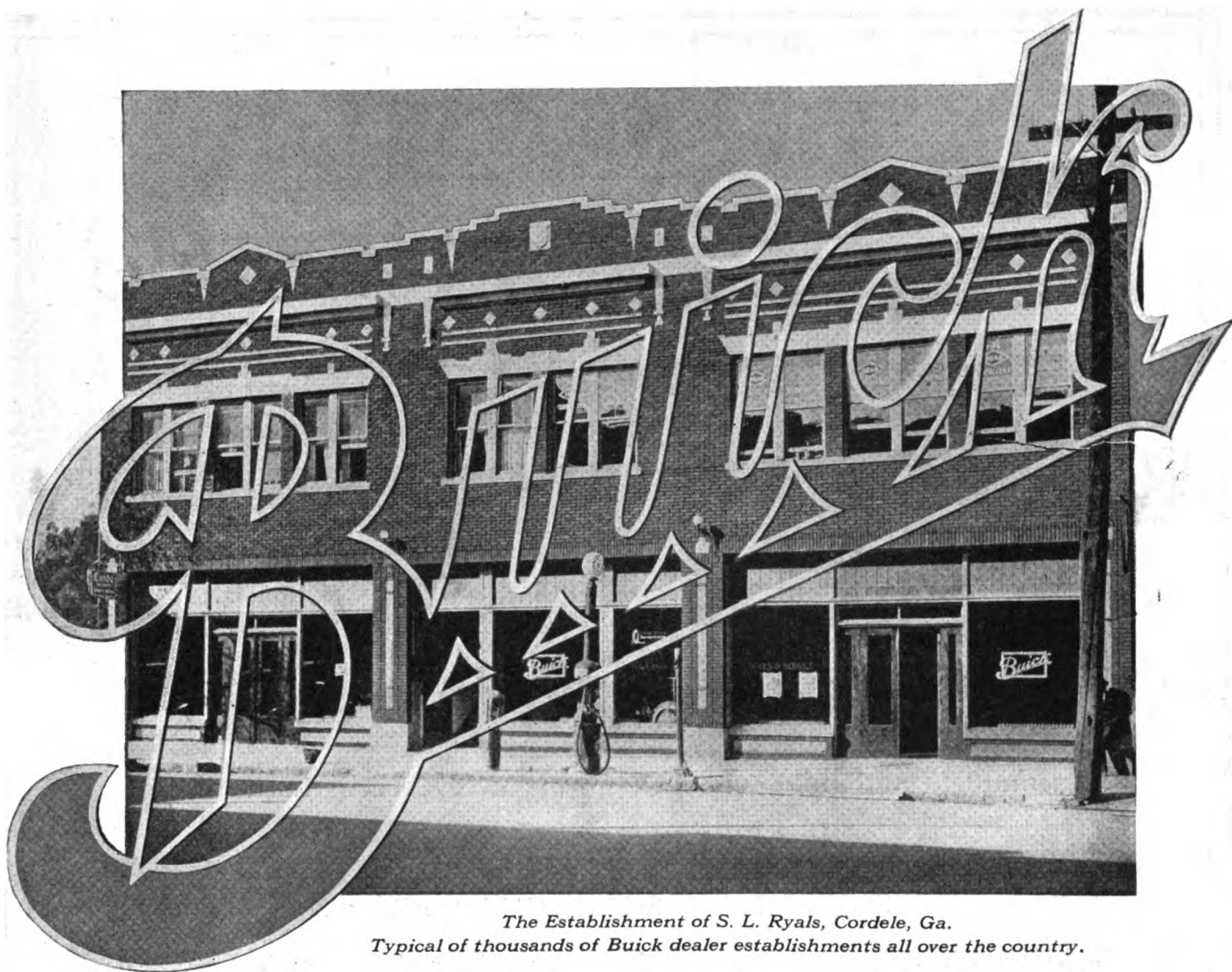
EATON

BUMPERS

FORMERLY  CHRYSLER

The EATON AXLE & SPRING COMPANY

Bumper Division, Central Ave. at East 65th St.
CLEVELAND



*The Establishment of S. L. Ryals, Cordele, Ga.
Typical of thousands of Buick dealer establishments all over the country.*

Buick Brings Prosperity

Ask anybody what he thinks of Buick. Invariably he will tell you that Buick is a thoroughly good, high grade and dependable automobile and that a person is sure of playing absolutely safe when he chooses one. The fact that everybody has a good word to say about Buick is one of the reasons that make a Buick dealership attractive. Notice the Buick dealers' places you know. They are prosperous business establishments. Why not have your name on file.

BUICK MOTOR COMPANY, FLINT, MICHIGAN

Division of General Motors Corporation

Pioneer Builders of Valve-in-Head Motor Cars

Branches in All Principal Cities—Dealers Everywhere

WHEN BETTER AUTOMOBILES ARE BUILT, BUICK WILL BUILD THEM

Kindly Mention AUTOMOBILE TOPICS When Writing to Advertisers

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The Modern Gasoline Automobile

Its Design, Construction, Operation and Maintenance

By VICTOR W. PAGÉ, M. E.

1000 Illustrations

1000 Pages

Price \$3.00

A complete automobile book, showing every recent improvement

CONTAINS SPECIAL CHAPTERS ON

I—Motor car types, their parts and functions; II—Modern engine types and their operating principles; III—Cylinder construction and valve systems; IV — Pistons, crankshaft and crankshaft parts; V—Fuels, fuel supply and carburetor action; VI—Carburetors and fuel system auxiliaries; VII—Modern electrical ignition systems; VIII—Lubrication and engine cooling systems; IX — Clutches and changed speed gearing; X — Chassis and its components; XI—Front and

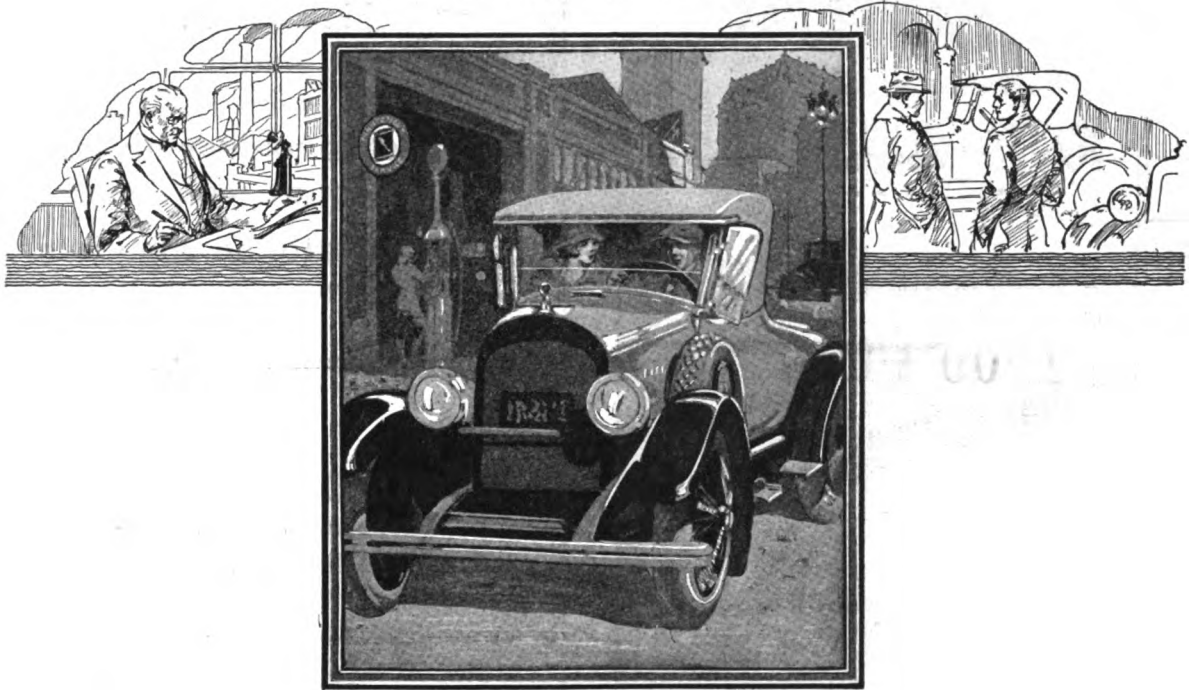
rear axles and brakes; XII—Wheels, rims and tires; XIII—Starting and lighting systems; XIV — Equipment and accessories; XV — Driving and care of an automobile; XVI—Hints for locating engine troubles; XVII—Upkeep of chassis, body and upholstery. A practical, comprehensive treatise explaining all principles pertaining to gasoline automobiles and their component parts. The most complete up-to-date treatise on gasoline automobiles ever published.

AUTOMOBILE TOPICS

Book Department

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Benefits Manufacturers, Dealers and Owners Alike

With more than a thousand of the most reliable electric service organizations—

Offering every facility for the repair and renewal of worn parts—

Covering every city and town of any importance in the United States—

THE CONNECTICUT SERVICE STATION SYSTEM

is big enough and broad enough to insure automobile manufacturers and dealers of prompt and efficient co-operation in maintaining the after-purchase performance of their cars, and to make it as easy for their owners to secure genuine Connecticut parts as it is to buy the particular brand of gasoline they want to use.

For Genuine Parts



For Reliable Work

LOOK FOR THIS SIGN



CONNECTICUT **TELEPHONE & ELECTRIC**
MERIDEN **AUTOMOTIVE IGNITION DIVISION**

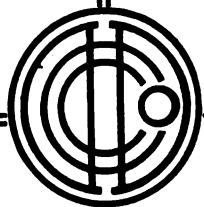
COMPANY
CONNECTICUT



CONNECTICUT IGNITION

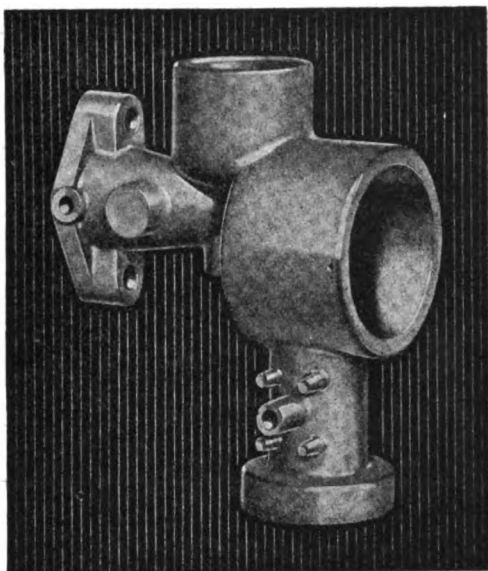
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DOEHLE

The World's Largest Producer of
DIE-CASTINGS



An important factor in the "production insurance" given Doehler customers is the replacement—voluntarily and without cost—of worn dies.

The quality of Doehler Die-Castings is never permitted to suffer as a result of die depreciation—a new set of dies is always ready in time to maintain quality and delivery.

Though an order for Doehler Die-Castings may run into the tens of thousands, the last must be as good as the first—must be up to the Doehler standard.

DOEHLE DIE-CASTING CO.
BROOKLYN, N.Y.
TOLEDO, OHIO.

Conditions warrant a closer co-operation between Buyer and Seller.

We think we have some important matters of interest to you, and would like very much to confer with you on your future requirements.

Hoping for an opportunity to serve you.

EDMUNDS & JONES CORP.
Buchanan & Lawton Avenues
DETROIT, MICHIGAN

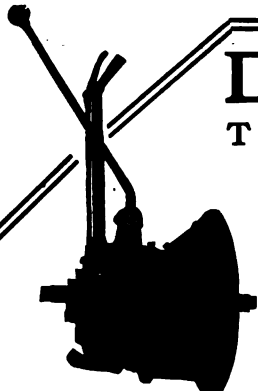
The Bearings Company of America—Manufacturers of Angular Contact Radial Bearings, Angular Contact Thrust Bearings, Thrust Ball Bearings. Bearings made to your B/P's and requirements. Your present Bearing sizes duplicated.



THE BEARINGS COMPANY of AMERICA
LANCASTER, PENNA.
Detroit Office,
1012 Ford Bldg.,
Detroit, Mich.

Federal knows from experience that only when its distributing organization makes money can it be successful—so FEDERAL gives 100% cooperation to its representatives in the form of national advertising, newspaper and billboard participation, literature of all kinds, engineering data, special equipment information, retail sales awards. That is the reason why the FEDERAL has had for many years, the largest exclusive truck distributor organization in the industry.

THE FEDERAL MOTOR TRUCK COMPANY
Detroit, Michigan.



DURSTON
TRANSMISSIONS

For passenger cars and trucks up to one-ton capacity. Investigate their adaptability to your requirements.

DURSTON GEAR CORPORATION
13 MALTBY ST., SYRACUSE, N. Y.

Recognized as
The Standard of Quality

HODGMAN
Top Material

WRITE FOR 1923 SAMPLE BOOK

HODGMAN RUBBER CO.
25 West 43rd St., New York
FACTORIES AT TUCKAHOE, NEW YORK

GURNEY



For Replacement Work choose Gurney Bearings because they have the Greatest load capacity for their size.

Ask for circular "Separators, Old and New."

GURNEY BALL BEARING CO.
402 Chandler Street
Jamestown, N. Y.

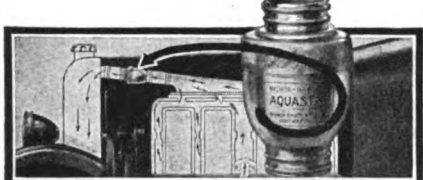
BALL BEARINGS

WARNER GEAR COMPANY
MUNCIE, INDIANA



CLUTCHES, TRANSMISSIONS, CONTROLS, DIFFERENTIALS

Summer Engine Performance All the Year



A Real Winter Business Builder That Pays the Dealer Handsome Profits.

Write for Aquastat Sales Plan

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Automotive Specialties Division, Cleveland, Ohio

BISHOP-BABCOCK
AQUASTAT

RETAIL PRICE
\$10.00

Bethlehem
Tourack
Carries Your Luggage



At last, a practical luggage-carrier. Substantial, solid-sided. Folds flat against the running-board when not in use. Carries almost anything. Very popular with car-owners.

BETHLEHEM SPARK PLUG CO., INC.
Bethlehem, Pa.

Utilities — not EXCESSories!


CARRIES THE LOAD
TAKES THE THRUST



Exclusive Bower Features
Separate bearing surfaces for load and thrust. Parallel raceways. Self-aligning. Never need adjusting. Does not develop end thrust under loads. Will not bind or end slip.

BOWER
ROLLER BEARING CO.
Detroit Michigan

NO-LEAK-O PISTON RINGS
Won't Leak Because They're Sealed With Oil



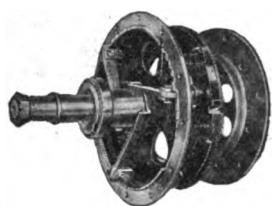
"NO-LEAK-O"
No-Leak-O Piston Rings are making money for dealers everywhere. Their "oilSEALing" groove—found only in No-Leak-O—picks an oil film in between piston and cylinder walls like "packing" in a pump. Oil and gas stay where they belong.

National advertising is helping the dealer sell No-Leak-O by teaching the motorist the lesson of more mileage on less oil and gas. It will pay you to stock No-Leak-O at once.

Price 50c and up.

NO-LEAK-O PISTON RING CO., Dept. 265 Muskegon, Mich.

The New Type "M&E" Clutch



The Flexible

A Quality Clutch—Low in Cost.

MERCHANT & EVANS CO.

Phila., Pa.

APPLEBY

USED CAR

PLAN

—a Solution of
the used car
problem!

Percy Chamberlain Associates, Inc.
1320 Book Building
Detroit, Mich.

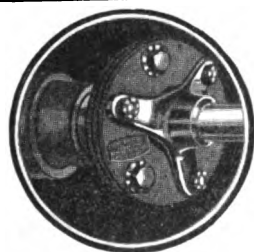
There's a GILLIAM Bearing for
practically every application
and every location in every
make of automotive equipment.

Cups Cones Rollers
Alloy Steel Throughout



THE GILLIAM MFG. CO.

Canton, Ohio



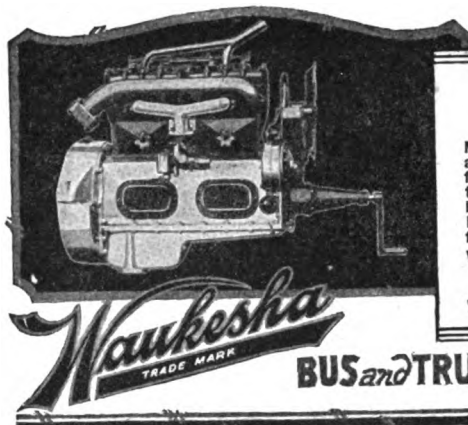
*They cushion the shocks
that rack a car*

Flexible fabric discs—

strong enough to withstand
a twisting strain of 21,000 lbs.

THERMOID-HARDY
UNIVERSAL JOINT

Manufactured by Thermoid Rubber Company, Trenton, N.J.



Profitable Operation

Minimum upkeep costs
and an unusual per-
formance ability give
the new Waukesha
Bus and Truck Motor
R E A L investment
features.

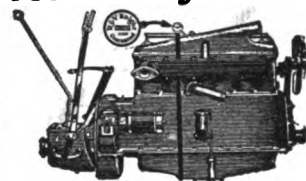
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THE WAUKESHA
MOTOR CO.,
Waukesha, Wisconsin.

BUS and TRUCK MOTORS

"The SEALED Engine" —guaranteed for two years

The New R&V Knight Six En-
gine furnishes the most depend-
able, economical and satisfactory
motor transportation in the world.
We authorize any legitimate au-
tomobile dealer to sell this car.
Our unique selling plan that re-
quires no capital from dealer will
be sent on request. Write or
wire for details.



R&V Knight

SIX

"EVERLASTING PERFORMANCE"

R & V Motor Company

East Moline, Ill.

The Grand Prix Car **DUESENBERG** *Straight Eight*

with Four-Wheel Hydraulic Brakes

DUESENBERG AUTOMOBILE &
MOTORS CO., INC., INDIANAPOLIS

INTERNATIONAL MOTOR TRUCKS *for low-cost hauling*

Models range from the 2,000-lb. Speed Truck to the
10,000-lb. truck. Some territory is still open for dealers.

INTERNATIONAL HARVESTER COMPANY

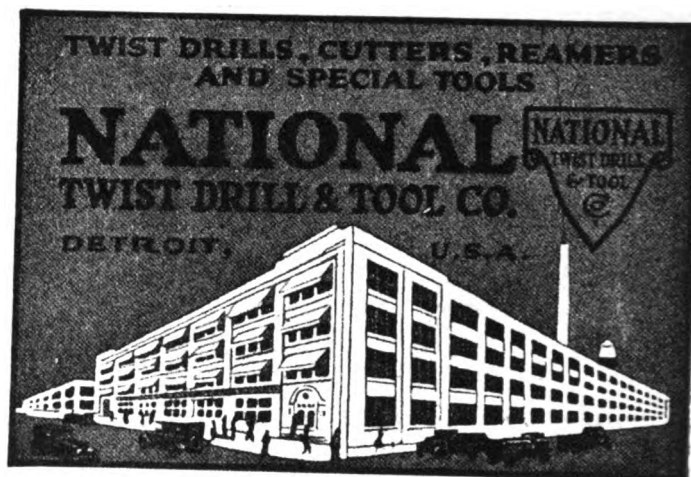
of America (Incorporated)

CHICAGO

U. S. A.



**COUNTER-BALANCED
CRANK SHAFTS
HEAVY DIE FORGINGS**
The Park Drop Forge Co.
Cleveland, Ohio



SHEET METAL STAMPINGS

From Steel, Brass, Bronze, Copper
and Aluminum.

We also specialize in Case Hardening
and Tool Tempering.

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Buffalo, N. Y.

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Cleveland Office: 415 Schofield Bldg.
Detroit Office: 1709 Ford Building
Philadelphia

HOW TO REDUCE WINTER OVERHEAD

Extra Profit on Lubricating Service
—\$50 to \$200 per week

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"Without a helper I make
\$5,000 a year and more."—
R. L. Perkins, Chicago.

"We serviced about 10 cars a day when we
started. Now we handle from 400 to 500."
—Washburn-Walker Co., Los Angeles.

YOUR PROFIT is \$1.00 to \$3.00 on EVERY CAR



Free Book "How to go into the Lubricating Service Business."
Tells how to start in this new profitable business on an investment as low as \$200. Gives you facts and figures—brass tacks. Limited edition. Send today.

Dept. C-2, BASSICK MFG. CO.
2652 N. Crawford Avenue Chicago, Illinois
Manufacturers of

Alemite High Pressure Lubricating System

METAL STAMPING DIES AND TOOLS

DIFFICULT
DRAWING in
ANY METAL



WELDING
BRAZING
PLATING

We have the Experience and Facilities Necessary to Assure
Satisfaction

THE OTTO KONIGSLOW MFG. CO.
3510 Perkins Ave. CLEVELAND, OHIO

OVER 50,000 MILES

now reported on "Whitney"
High Efficiency Front End
Motor Chain Drives and still
in good condition.

THE WHITNEY MFG. CO.
Hartford Conn.

THOMPSON SILCROME VALVES WON'T BURN

Originated and manufactured by

THE STEEL PRODUCTS CO.
CLEVELAND DETROIT

Union Drawn Steel Co.
River Falls, Wis.

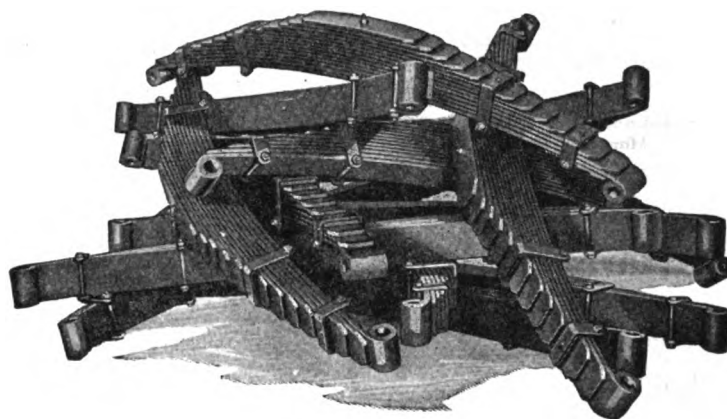
Manufacturers of

**BRIGHT FINISHED STEEL SHAFTING,
SCREW STEEL CHROME NICKEL and
CHROME VANADIUM STEELS in
FLATS, SQUARES, ROUNDS
HEXAGONS and SHAPES;
also ELEVATOR GUIDES**

BRANCH OFFICES: Boston, Buffalo and Cleveland
BRANCH OFFICES AND WAREHOUSES: Chicago, Cincinnati,
Detroit, New York and Philadelphia

MATHER SPRINGS

Standard of the World



The shortest cut to getting your
full money's worth in the things
you buy is—quality.

Genuine Made Only By
The **MATHER SPRING CO.**
TOLEDO, OHIO, U.S.A..



The Sign of Service

Let Your Nearest Ahlberg Branch Be Your Stock Room For Ball Bearings

We have all types of the highest grade ball and roller bearings in stock ready for immediate delivery.

In addition we have complete stocks of Ahlberg Ground Bearings to be had in exchange for your worn bearings, at a considerable saving.

When you next need bearings call at our nearest branch.

BRANCHES:

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Ahlberg Bearing Company
317 E. 29th St. Chicago, Ill.

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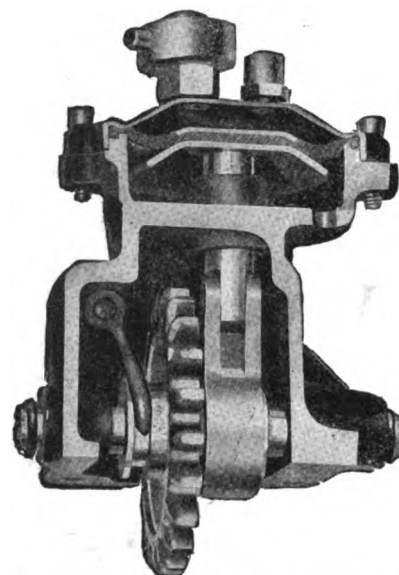
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Automotive Products For Automobile Manufacturers

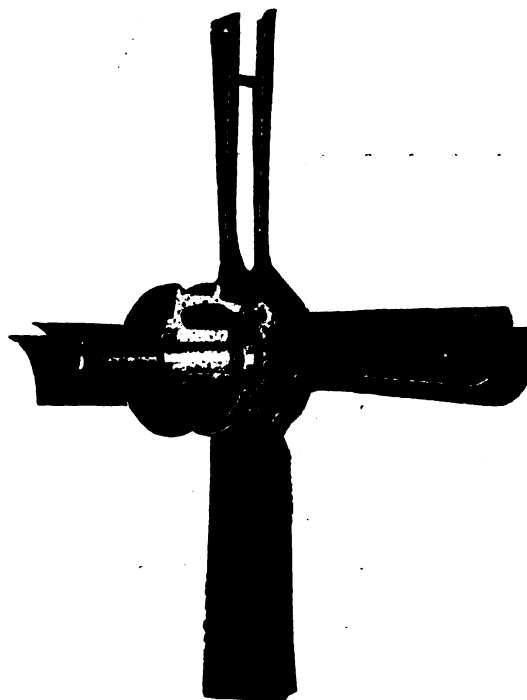
Detroit Diaphragm Pump

Said by Engineers to be the most efficient pump on the market. No oil can get to your tubes.



"Pitter" Multiblade Fans

A great forward step in fan construction. The multiblades increase the cooling and prevent heating troubles.



Detroit Carrier & Mfg. Co.
Detroit

KEEP
SMILING
WITH
KELLYS

Lotta Miles



A FEW years ago a tire that delivered 3,500 miles was considered good. Kellys got their reputation by giving two and three times that. The Kelly Cord of today is incomparably better than the tires upon which the Kelly reputation was built, yet you can now sell Kellys to your customers at prices no higher than they would have to pay for "standard make" tires.

It costs no more to buy a Kelly



